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FINANCIAL MANAGEMENT RESEARCH IN FARMING IN THE UNITED STATES

An Annotated Bibliography of Recent Publications and Current Work

U. S. DEPARTMENT OF AGRICULTURE
ECONOMIC RESEARCH SERVICE

ABSTRACT

This annotated bibliography describes the contents of 300 recent publications and 50 current research projects relating to financial management of agricultural firms. A topic index groups the publications and current projects into subject matter areas within financial management. Also included are lists of teachers of graduate level courses in farm management and agricultural finance in State universities.

Keywords: Financial management, farm management, management, bibliography, research methods, current research, agricultural finance.

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PREFACE

Farm financial management is an area of broad scope, and precisely delineating its boundaries is difficult. Projects and manuscripts that seemed only partly within the scope of this bibliography were included or excluded on the judgment of the bibliographer. In many cases, titles were misleading and review of the manuscripts' contents showed the work to be outside the scope of the compilation.

Manuscripts and new research projects on farm financial management were being brought to the attention of the bibliographer right up to the time of publishing. Thus, this document cannot contain all of the recently published or ongoing work in the field.

Studies judged to be within the scope of farm financial management were ones placing major emphasis on one or more of the following subjects:

Farm financial management, as such

Financing of productive resources

Income tax management

Financial aspects induced by risk and uncertainty

Farm corporations and partnerships

Integration and contract farming

Growth of the firm

Intergeneration transfer and estate planning

Decisionmaking and choice among alternatives

Capital acquisition

Liquidity management

Goals of farmers

Not all publications and manuscripts falling in the above subject areas are included in this collection. For example, many States publish short articles on some of the above listed subject areas in their agricultural extension work. As a general rule, this work includes only those of a more comprehensive nature. Also, many studies were excluded which, though they refer to financial management concepts, place major emphasis on some other topic. Most of the annotated publications and manuscripts have been published or written since 1967. None dated before 1959 were included. Pamphlets and articles appear in quotation marks; theses, books, proceedings, and reference works are underscored. Some theses are not annotated.

The current research section of this report includes only those researchers who were reported to have formal current projects in financial management. This means that some researchers may have been excluded who regularly work in the financial management area but who do not have a project underway. Also, some relevant projects may not have been reported to the bibliographer.

Land-grant colleges were the basic source of information for this report. Other institutions providing information include the American Bankers Association, certain Federal Reserve Banks, the Farm Foundation, some nonland grant universities, and private firms. USDA's Current Research Information System (CRIS) provided some information on current projects, though most of the information used was from researchers themselves.

The lists of teachers of farm management and agricultural finance courses at the graduate level should be considered an approximation. Many institutions combine production economics, farm management, and agricultural finance, while others keep them as separate courses. Furthermore, the content of courses differs greatly among institutions. These lists are included in this bibliography mainly to indicate individuals who are interested in topics related to financial management, but who may not have a formal research project underway.

One of the functions of the Farm Production Economics Division, Economic Research Service (ERS), is to provide continuing intelligence on farm financial management. Consequently, readers are requested to review this publication and update the information contained therein by correspondence with the author.

Persons who want copies of publications issued by State agricultural experiment stations or other sources outside USDA should write to the issuing station or the author, not to USDA. For copies of USDA publications, write to: Office of Management Services, U.S. Department of Agriculture, Washington, D. C., 20250.

CONTENTS

TOPIC INDEX

Note: Entries in the report are in alphabetical order by author's last name and numbered consecutively for each letter starting author's last name. References in parentheses indicate projects currently underway.

FINANCIAL MANAGEMENT RESEARCH IN FARMING IN THE UNITED STATES
An Annotated Bibliography of Recent Publications and Current Work

by

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ANNOTATED PUBLICATIONS AND MANUSCRIPTS ALPHABETICALLY BY AUTHOR

A-1 Al-Bandar, Toma J., Farm Firm Growth Under Conditions of Variable and Uncertain Outputs: The Case of Dryland Farms in the Southern High Plains of Texas, unpublished Ph.D. thesis, Tex. A&M Univ., Jan. 1970, 112 pp.

Multiperiod linear programming over a 15-year period is used to study the growth process of farm firms in a framework of uncertain outputs. The objective function of maximizing firm growth was found unsatisfactory in studying the effects of expectations, credit availability, and resource competition on the firm. Consequently, the objective function is changed to minimizing capital and growth requirements for specified levels of consumption. The success of the firm for various levels of income variability is then determined.

A-2 Alpin, Richard D., and George L. Casler, "Evaluating Proposed Capital Investments With Discounted Cash Flow Methods," Ed. 2, Cornell Univ., Dept. Agr. Econ., Dec. 1969, 106 pp.

This publication, copyrighted and used as a text for students, is a basic treatise on investment choice by discounting the cash flow expected. Discussed are measures of investment worth, time value of money, meaning of cash flow, present value and yield of investments, income tax adjustments, and cost of capital. Problems in measuring cash flows, handling uncertainty, and capital rationing are also discussed. The appendixes include examples to illustrate the concepts in the book.

A-3 American Bankers Association, "Bank EDP Farm Recordkeeping Programs," 1120 Connecticut Ave., N.W., Washington, D.C., 1968, 36 pp.

The Agricultural Committee of the American Bankers Association surveyed banks and commercial firms to learn of their computerized farm recordkeeping programs. The report discusses the function of EDP recordkeeping, indicates the type of farmer who uses it, and tells how a bank sells the program. The report individually summarizes 21 bank-offered plans to include input information available, and other general information including the fees involved. These 21 plans are thought to be a complete list of available programs. A brief report on agencies other than banks which provide similar services is included. Sample output reports for several programs are included as exhibits.

A-4 American Bankers Association, "Better Agricultural Banking," 1120 Connecticut Ave., N.W., Washington, D.C., 1963, 40 pp.

This publication is a guide for establishing and handling an appropriate bank farm loan program, from the view of both bankers and farmers. Special emphasis is placed on policies and procedures relative to providing adequate loan funds, using credit tools, employing bank personnel who have had agricultural training, and utilizing a business approach in making farm loans. It includes an appendix of eight sample agricultural credit forms.

A-5 American Bankers Association, First Agricultural Data Processing Workshop, proceedings of workshop held at St. Louis, Mo., 1120 Connecticut Ave., N.W., Washington, D.C., Mar. 1966; and

American Bankers Association, Second Agricultural Data Processing Workshop, proceedings of workshop held at St. Louis, Mo., 1120 Connecticut Ave., N.W., Washington, D.C., Apr. 1968.

The papers in these proceedings indicate the extent to which the banking industry has automated services to customers. Of particular interest are the articles which explain the computer services available to individual farmers for accounting and planning. Also discussed are future trends in electronic data processing of farm and other records by banks and other farm management service companies. Participants were bankers; private agricultural research service representatives; economists; a farm magazine editor; and representatives of the Federal Reserve Bank, American Bankers Association, Federal Extension Service, computer service firms, a feed manufacturing firm, and other industrial firms. Advantages and problems from all points of view are described.

A-6 American Bankers Association, "Trends in Agricultural Banking: Report of Midyear 1968 Agricultural Credit Situation Survey," 1120 Connecticut Ave., N.W., Washington, D.C., 1968, 19 pp.

Usable questionnaires were returned by 840 agricultural banks to provide the information contained in this publication. Trends regarding the following subjects are discussed: Deposits, farm loan volume, loan-to-deposit ratios, delinquencies, interest rates, lending limitations, excess loan applications, financial condition of farmers, meeting credit requirements, bank agricultural specialists, bank-affiliated credit corporations, farm management service, and financing commodity futures contracts. The information is briefly and effectively presented by region and size of bank. The services provided by agricultural banks are of special interest.

A-7 American Bankers Association, "Water and Irrigation: Development and Financing of Farm and Ranch Irrigation Systems," 1120 Connecticut Ave., N.W., Washington, D.C., 1961, 72 pp.

This manual is designed mainly to assist bankers in their decisions to assist farm and ranch families with the development and financing of irrigation systems. The available water supply, its uses, public and private assistance involved in reclamation projects, and legal problems in water use rights are discussed. Bank loans for individual irrigation systems can be made directly or indirectly. Credit standards desirable for the farmer and the banker are discussed. Eleven informative appendixes are included, giving basic water laws of States, sprinkler application rates, fuel consumption for pumping, consumption requirements for selected crops, requirements for installation and performance of sprinklers, and the like.

B-1 Bailey, Warren R., "Necessary Conditions for Growth of the Farm Business Firm," in Research Into Economic Growth of the Farm Firm, West. Agr. Econ. Res. Council, Nov. 1965, pp. 35-43. (Author is with U.S. Dept. Agr., ERS, Farm Prod. Econ. Div.)

Bailey first defines growth as an increase in volume of business, and then explains the conditions which must be prevalent for growth to occur. Conditions include excess managerial capacity, profitable business, a minimum starting size, unused resources, and added resources procurable. He illustrates these concepts by an example of growth of a dryland wheat farm.

B-2 Bailey, Warren R., "Organizing and Operating Dryland Farms in the Great Plains--Summary of Regional Research Project GP-2," U.S. Dept. Agr. ERS-301, Feb. 1967, 55 pp.

This publication reports findings of regional research project GP-2 of the Great Plains Agricultural Council. Summarized are the results and planned work of the contributing projects--six conducted by State agricultural experiment stations and one by the Economic Research Service, USDA. The projects are: Montana, spatial diversification; North Dakota, irrigation; Nebraska, strategies of organizing and operating farms; Kansas, economic opportunities and strategies; Oklahoma, farm organization; Texas, strategies for organizing and operating farms and ranches; and Economic Research Service, effect of weather on management strategies. Discussed also are the benefits and limitations of the following strategies applicable to Great Plains agriculture: selecting enterprises with low year-to-year variability, combining enterprises, flexibility in altering livestock numbers, acquiring feed reserves, maintaining financial reserves, spatial diversification, crop insurance, improving production technologies, irrigation, and renting land.

B-3 Bailey, Warren R., and Lawrence A. Jones, "Economic Considerations in Crop Insurance," U.S. Dept. Agr. ERS-447, Aug. 1970, 87 pp.

This report traces the evolution of crop-hail and all-risk crop insurance and describes present use by crops, States, and regions in terms of coverage, premiums paid, and indemnities. The different natural hazards to growing crops are listed and concepts of yield variability and the impact of technology are discussed. Analyses are made of the relation of coverage to indemnities and premiums on individual farm contracts, and how indemnities and premiums differ by variability of yields. Of special interest is a nationwide survey which included 21 counties and summarized the use of insurance for individual farmers in these counties. The report also uses normal distribution theory to project probable indemnities and examines the financial reserves needed by the insurer.

B-4 Baker, C. B., "Credit in the Production Organization of the Firm," Amer. Jour. Agr. Econ. 50(3), Aug. 1968, pp. 507-520.

Baker argues that the theoretical equilibrium conditions traditionally used by economists must be modified to provide criteria for optima useful to the firm. Important among these modifications is the credit or borrowing capacity of the firm. He states a theory regarding production organization and adds to it the concept of financing. He suggests the use of single and multiperiod linear programming to answer questions regarding choice among investment alternatives and means of acquiring capital resources.

B-5 Baker, C. B., "Financial Management: Principles of Economics," in The Tenth Annual Agricultural Industries Forum, Univ. Ill., Dept. Agr. Econ. AE-4190, 1968, pp. 26-28.

Three problem areas of financial management are discussed briefly: acquiring resources for a viable unit, organizing for growth, and arranging for transfer to the next generation. The concepts of leverage as applied to acquiring resources, and liquidity as applied to growth are considered.

B-6 Baker, C. B., "Financial Organization and Production Choices," Amer. Jour. Agr. Econ. 50(5), Dec. 1968, pp. 1566-1579. (A discussion of this article by William McD. Herr follows it.)

Baker expands on his August 1968 article and extends his argument to long-term financing required for acquisition of real property. He notes special problems with land resource financing and suggests a model in linear programming format to handle the loss of liquidity through borrowing. His point is that credit is absorbed at different rates, depending on the asset to be acquired. This is a reason why actual farm operations differ from optimally programmed organizations which have not taken into consideration the aversion to debt by farmers.

B-7 Baker, C. B., "Financing and Managing Farm Firm Growth: Research Progress and Prospects," paper presented to W-104 and GP-12 Committees, Denver, Colo., June 1970, 45 pp.

The main thrust of this paper is in specifying a means by which investment, financing, credit profile, credit reservation prices, progressive tax structure, changing marginal propensity to consume, liquidity preference, managerial quality, and life-cycle stages can be explicitly included in linear programming models of farm firm growth. Baker defines and discusses the basic components of each of the above concepts and their importance in firm growth. He points out the need for further specification of managerial quality, liquidity preference, and life-cycle stages of farmers.

B-8 Baker, C. B., "Firm Growth, Liquidity Management, and Production Choices," in Production Economics in Agricultural Research, proceedings of conference held at Univ. Ill., AE-4108, Mar. 1966, pp. 137-150.

Baker discusses briefly the measurement of firm growth. He tries to identify the value of liquidity of the firm and suggests that liquidity loss be included in present-value calculations when an asset is being considered for acquisition. He proposes a multiple-period linear programming model to include these concepts and to test growth strategies and financial constraints over time.

B-9 Baker, C. B., and J. A. Hopkin, "Concepts of Finance Capital for a Capital-Using Agriculture," Amer. Jour. Agr. Econ. 51(5), Dec. 1969, pp. 1055-1064.

The authors discuss the effects of leverage and liquidity on growth characteristics of the farm, influence of credit on equilibrium of the firm, and implications of such an equilibrium on resource allocation, firm growth, income, and net worth. The trend toward continued separation of ownership and management is foreseen. Policy issues in finance are briefly discussed.

B-10 Baker, C. B., John A. Hopkin, and Charles Linke, "Financial Management of the Farm Firm: Research Priorities," paper presented at North Central Farm Management Research Committee meeting, Chicago, Mar. 1969, 27 pp.

This paper explores some problems and alternatives in devising financial strategies for (1) acquiring resource control, (2) protecting equities, and (3) intergeneration transfer of assets. The strategic concepts of organization, growth, leverage, and liquidity are discussed in some detail. The meaning and effects of leverage, liquidity, and leasing on financing resource acquisition are considered, as are the effects of liquidity and insurance on protecting equity. Intergeneration transfer is discussed under two objectives--continuity of a viable firm and transfer of equity with minimum capital drainoff.

B-11 Baker, C. B. and J. M. Holcomb, "The Emerging Financial Problems in a Changing Agriculture," Jour. Farm Econ. 46(5), Dec. 1964, pp. 1200-1212. (The paper is discussed by John A. Hopkin and John C. Redman in the same issue of the journal.)

Farm problems of a financial nature that are discussed include reserves management, seasonal financing, insurance, and capital gains and land transfers. Lender problems discussed are capital loans, operating loans, and lending limits. The implications of these problems for agricultural economists are briefly explained.

B-12 Barry, Peter J., Reservation Prices on Credit Use Over Time: Implications for Growth of Cash Grain Farms, unpublished Ph.D. thesis, Univ. Ill., 1970; and

Barry, Peter J. and C. B. Baker, "Reservation Prices on Credit Use: A Measure of Response to Uncertainty," Amer. Jour. Agr. Econ. 53(2), May 1971, pp. 222-227.

These manuscripts report a means of estimating values or reservation prices associated with the liquidity provided by unused credit--credit defined as the capacity to borrow. The effects on growth in net worth of credit reservation prices was determined by varying the levels of reservation prices in a multiperiod linear programming model of an Illinois cash grain farm. Results showed that the farmer who used credit liberally (that is, had a low credit reservation price) had a more rapid rate of increase over time in net worth than a similar farmer who was subjected to high credit reservation prices.

B-13 Barry, Peter J. and John R. Brake, "Financial Strategies and Economic Decisions of the Firm," Mich. State Univ. Agr. Econ. Rpt. No. 185, Feb. 1971, 31 pp.

The authors have summarized and discussed the relevant variables, research efforts, problems, and their implications for the financial organization of the farm firm for each stage of the life cycle of the firm. Firm stages include acquiring initial farm resources, growth of the firm, consolidation, and transfer of the firm to heirs and new management. The authors focus on objectives of the firm at each stage, and the relevant decision criteria to be used. They discuss the applicability of past research and point out variables important in studying and making recommendations concerning firms.

B-14 Batterham, Robert L., Investment in Farm Machinery Systems Under Conditions of Certainty and Risk, unpublished M.S. thesis, Univ. Ill., 1969.

B-15 Becker, Manning and A. Gene Nelson, "Investment Analysis: A Case Study of the Machinery Buy or Lease Decision," paper presented at Agr. Clinic of Oreg. Bankers Assoc., Oreg. State Univ., Dept. Agr. Econ., Dec. 1970, 10 pp.

A case situation is used to illustrate the machinery buy-or-lease decision. Two tools--partial budgeting and present-value analysis--are compared and their effectiveness and ease of use illustrated.

B-16 Benson, Richard A., A Comparative Analysis of Financing Requirements of Selected Types of Farm Operations in the Eastern Corn Belt for 1980, unpublished Ph.D. thesis, Mich. State Univ., 1970, 193 pp.

Nine farming operations including dairy (in 80-, 200-, and 1,000-cow units), cash grain (in 640-, 1,680-, and 4,160-acre units), and beef feeding (in 375-, 900-, and 6,000-head units) were synthetically constructed and budgeted to study possible financing needs of typical farm operators in 1980. The author discusses the sizes and types of farming units expected to be important in 1980, their magnitudes of investments required, income-generating ability, size of loans needed, loan repayment capacity, and expected risks in financing. Early chapters discuss the structural changes occurring in agriculture and the supposed implications of these by 1980. Three additional manuscripts based on this thesis are planned and will be coauthored by Benson and John R. Brake.

B-17 Benson, Richard A. and John R. Brake, "Financing Expansion to Large-Scale Dairy Farming," Mich. State Univ., Agr. Expt. Sta. Res. Rpt. 76, Jan. 1969, 10 pp.

Data for this study came from interviews of 20 farmers in Michigan who had expanded their herds to 70 or more cows during 1957-63, and interviews of some of the lenders who had provided these farmers with expansion funds. The study indicates some of the problems encountered in expansion to larger herd sizes, including repayment of debt, inaccurate expectations, and decrease in net income per cow. Opinions of lenders concerning financing expansion of dairy farms are discussed.

B-18 Boehlje, Michael D., Strategies for the Creation and Transfer of the Farm Firm Estate, unpublished Ph.D. thesis, Purdue Univ., Jan. 1971, 231 pp.

An analytical model of the estate creation-transfer process was developed using the constructs of a multistage decision theory model and incorporating Bayesian decision rules and Monte Carlo simulation. The objective of the analysis is to transfer the largest possible amount of property from parents to heirs in a specified number of years. A case farm is used to study optimum strategies for creation and transfer of estates. Results indicate that creation and transfer decisions should be made concurrently for best results. The author discusses in considerable detail the applicable legal and accounting requirements for estate transfer.

B-19 Boehlje, Michael D. and T. K. White, "An Analysis of the Impact of Selected Factors on the Process of Farm Firm Growth," Purdue Univ. Res. Bul. No. 854, Dec. 1969, 23 pp.;

Boehlje, Michael D., An Analysis of the Impact of Selected Factors on the Process of Farm Firm Growth, unpublished M.S. thesis, Purdue Univ., Jan. 1968; and

Boehlje, Michael D. and T. K. White, "A Production-Investment Decision Model of Farm Firm Growth," Amer. Jour. Agr. Econ. 51(3), Aug. 1969, pp. 546-563.

All three references above refer to the same study. Boehlje uses a multiperiod linear programming model to study the impact of labor availability, initial equity level, and goals of the farmer on the growth of the firm. Two goals compared are maximizing ending net worth and maximizing the discounted stream of disposable income over the planning period of 10 years. Investment alternatives include the purchase of land, addition of sows (in three possible systems), and addition of feeder pigs.

B-20 Bostwick, Don, "Analytical Framework and Techniques for Studying Firm Growth," U.S. Dept. Agr., Econ. Res. Serv., paper presented at West. Agr. Econ. Res. Council, Las Vegas, Nev., Nov. 1967, 8 pp.

The thrust of this paper is to define the concepts involving farm firm growth and to discuss relevant approaches to researching this topic. Dangers in studying firm growth are noted, past studies are commented on, and a plea for additional conceptualization of the actual growth process is made.

B-21 Bostwick, Don, "Farm Financial Management Research--A Theoretical Analysis," U.S. Dept. Agr. ERS-389, Nov. 1968, 26 pp.

Bostwick defines the terms relating to financial management. He conceptualizes and charts the resource flows and managerial processes of the farm firm. He suggests a functional approach to analyzing the financial management decision process. Functional categories include investment, ownership, management, labor, and entrepreneurship. He discusses special problems involved in developing conceptual models for studying growth, getting started, disinvestment, and risk in farming. He suggests research in specific areas to clarify the approach to studying farm financial management.

B-22 Bostwick, Don, "Investment Appraisal and Decisions: Machinery and Buildings," U.S. Dept. Agr., Econ. Res. Serv., paper presented at International Farm Management Congress, Warwick, England, July 1971, 15 pp.

Bostwick proposes that the basic principle of choice among investment alternatives for farm managers is to choose the alternative which has the highest expected present value of net returns, which exceeds investment cost, and which has been adjusted for risk. Examples illustrate the choice among farm investments when risk is explicitly accounted for. Risk is explicitly included by attaching a probability to various possible levels of each investment alternative and using these probabilities as weights for present-value comparisons.

B-23 Bostwick, Don, "Management Strategies for Variable Wheat Yields in Montana," Mont. Agr. Expt. Sta. Bul. 585, June 1964, 20 pp.

The author examines the historical variability of Montana wheat yields and the probability of the succeeding year being high or low. Methods of reducing variability, sharing the risk, and spreading the risk over time are discussed.

B-24 Bostwick, Don, "Partitioning Financial Returns: An Application to the Growth of Farm Firms," U.S. Dept. Agr. ERS-390, Jan. 1969, 35 pp.

This is a basic document in which the author conceptualizes the partitioning of the financial returns to a business among three functions: investment, ownership, and entrepreneurship. He defines and discusses all relevant terms and applies the concepts to a dryland cash grain farm. He illustrates the use of the partitioning returns concept by comparing five land acquisition strategies over a 30-year period. The results are discussed and illustrated graphically.

B-25 Bostwick, Don, "Research on Financial Management of Farms," in Management Strategies in Great Plains Farming, proceedings of a workshop by a technical committee of GP-2, Univ. Nebr. Bul. MP-7, Aug. 1961, pp. 71-80. (D. C. Myrick discusses this article in a subsequent article in the proceedings.)

Bostwick defines financial management and lists management goals. Management strategems discussed are credit, crop insurance, reserves, depreciation and replacement, and the interrelationships of these. He discusses the elements of a "management paradigm" which takes account of psychological, physical, and ecological factors in financial management of the farm firm.

B-26 Bostwick, Don, "Returns to Farm Resources," Amer. Jour. Agr. Econ. 51(5), Dec. 1969, pp. 1527-1535.

This paper raises three questions: Can returns to farm production resources be isolated? Can they be quantified? Does it matter? Bostwick identifies and defines the resources: Investment, ownership, labor, management, and entrepreneurship. He quantifies the returns to each of these resources by using an Illinois corn farm under three tenure assumptions--pure owner, pure renter, and part owner-part renter. The advantage of partitioning returns is displayed by comparing the returns to each of the five resources under the three tenure situations.

B-27 Bostwick, Don and Allen G. Smith, "Financial Management of Farms and Ranches in the Great Plains," in Agricultural Finance in the Great Plains, seminar proceedings of Great Plains Resource Economics Committee, Great Plains Agricultural Council Pub. No. 51, assembled by Kan. State Univ., Dept. Agr. Econ., Sept. 1970, 24 pp.

The authors suggest financial management concepts which are designed to assist Great Plains farmers in their unique production situations. They first describe the decision environment with regard to scale, demography, dominant values, uncertainty, and production alternatives. They suggest that it might be helpful to partition returns for Great Plains operations to the functions of ownership, investment, labor, management, and entrepreneurship. A distinction is made between debt and equity financing, which are discussed in detail as to their use in firm operation. Last, the paper looks to the future for Great Plains farmers and the systems of management and production that are likely to develop.

B-28 Bowman, E. Glenn and R. Lee Chambliss, Jr., "Capital Accumulation and Firm Growth--A Polyperiod Linear Programming Analysis of Farms in the Peanut Area of Southeastern Virginia," Va. Polytech. Inst., Res. Div. Bul. No. 41, Jan. 1970, 75 pp.

A polyperiod linear programming model was used to determine the optimum combination of resources and enterprises, capital flows, and growth trends in southeastern Virginia farms. Particular items studied were objective function, initial capital level, discount rates, and land acquisition method. The structure of the model and data used are presented in the report.

B-29 Boyet, Wayne E., Analysis of the Corporation as a Farm Management Tool, unpublished M.S. thesis, N. C. State Univ., 1963, 117 pp.

This thesis emphasizes the income tax aspects of incorporation. Income taxes for individual proprietorships and corporations are compared for various levels of gross income and salaries for owner-managers. Other advantages and disadvantages of incorporation are discussed. The extent of farm corporations in North Carolina in 1960 is determined. Results indicate that few North Carolina farms have incomes sufficient to justify incorporation strictly from an income tax standpoint.

B-30 Brake, John R., "A Critical Review of Research in Agricultural Finance," in A New Look at Agricultural Finance Research, proceedings of a workshop on agricultural finance research, Univ. Ill., Dept. Agr. Econ., Agr. Finance Program Rpt. No. 1, 1970, pp. 3-11. (Included in the proceedings is a discussion of the paper.)

Brake points out and discusses four general criticisms of agricultural finance research: Failure to ask the right questions; the question "why" is asked too seldom; too many institutions, situations, and research techniques are taken as given; and too little thought is given to the implications of research findings. He discusses the use and misuse of certain research methods.

B-31 Brake, John R., "Financing Michigan Farms: The Thumb," Mich. State Univ., Agr. Expt. Sta. Res. Rpt. No. 1, Oct. 1963, 19 pp.

Four typical farms in "The Thumb"--eastern Michigan--are budgeted by linear programming to determine profitable changes. The amount of credit which could be used profitably and the direction of change in farm organization and size are estimated. Farm types analyzed are cash crop, small dairy, large dairy, and general farms. Five levels of availability of chattel and real estate credit are imposed. Data were obtained from interviews conducted in 1959. Implications for farmers and for credit institutions are discussed.

B-32 Brake, John R., "Firm Growth Models Often Neglect Important Cash Withdrawals," Amer. Jour. Agr. Econ. 50(3), Aug. 1968, pp. 769-772.

Brake points out the extent that results of growth studies may be biased upward if social security, income tax, and consumption are excluded or underestimated. He also offers a consumption function derived from published data where consumption is based on after-tax income and family size.

B-33 Brake, John R., John Okay, and Myron Wirth, "Management Problems in Dairy Farm Expansion," Mich. State Univ., Agr. Expt. Sta. Res. Rpt. No. 68, July 1968, 8 pp.

Nineteen Michigan dairy farmers who had increased their herd size to over 70 cows by 1963 were interviewed in 1965 and asked to indicate problems encountered during the expansion of the herd. The reasons for their expansion--as well as for problems in planning, financing, organization, production, and physical layout--are determined. Indications of their success during and after expansion, future plans, and suggestions to other dairymen are included in the report.

B-34 Bratton, C. A., "Father and Son Farm Partnership Arrangements," Cornell Univ. Ext. Bul. No. 861, revised Jan. 1962, 15 pp.

This is a general information bulletin regarding farm partnership arrangements. Essentials of a good partnership and a method of determining partners' contributions are given. A sample partnership form is given and legal counsel is recommended.

B-35 Butcher, Walter R. and Norman K. Whittlesey, "Trends and Problems in Growth of Farm Size," Jour. Farm Econ. 48(5), Dec. 1966, pp. 1513-1521.

After presenting data on the magnitude of overall growth rates in commercial farming, the authors indicate some problems to be faced and predict continuing rapid growth and mechanization in U.S. agriculture. James F. Thompson discusses their paper and describes the growth and adjustment process of 24 farms whose operators received technical guidance and material assistance from the Tennessee Valley Authority in 1962-65.

B-36 Butler, Charles P., "An Economic Appraisal of Cotton Allotment Transfers in South Carolina," Clemson Univ., Dept. Agr. Econ. AE-298, Feb. 1967, 16 pp.

Using four assumed levels of cotton acreage allotments, three levels of cotton prices, and several representative farms, optimum organizations are suggested by linear programming to indicate the conditions under which South Carolina farmers should release or acquire cotton acreage allotments. Optimal cotton acreage is determined both for representative farms and for the State as a whole for various assumed prices. Results indicate that the marginal income per acre of cotton allotment is higher on large than on small farms, suggesting a transfer in allotments by sale or lease from small to larger farms.

B-37 Butler, Charles P., "Projecting Economic Growth Potentials of Dairy Farms in South Carolina," Clemson Univ., Dept. Agr. Econ. AE-318, Nov. 1968, 42 pp.

The simulation technique for making management decisions in dairy farming developed by Robert F. Hutton is used to study dairy practices in South Carolina. Specific practices appraised for their effects on success and growth of dairy farms are culling, buying versus raising replacements, forage quality, and milk price changes. The author analyzes hypothetical farms representing the average distribution by age and production class of Holstein herds and Jersey or Guernsey herds. Two sizes of herds are considered: 50 and 100 cows. Characteristics of South Carolina dairy herds are briefly presented and milk supply and demand are projected to 1975.

B-38 Buxton, Boyd M. and Harold R. Jensen, "Economics of Size in Minnesota Dairy Farming," Univ. Minn., Agr. Expt. Sta. Bul. No. 488, 1968, 55 pp.

Sixty synthetic dairy farm situations, each representing a plant size, are optimized by linear programming. Shortrun cost curves are obtained for each situation by altering the required level of gross income. These curves provide evidence for projecting a longrun cost curve. The influence of milk price, crop rotation restrictions, labor price, feeding technology, type of facilities, and field machinery on the cost per dollar of gross income is determined. The range in labor supply is one to four men. Results indicate that farm sizes will continue to move toward four-man units as long as a maximum net return is the primary motive of dairymen.

C-1 Carman, Hoy F., "Income Tax Planning for Farmers," Amer. Jour. Agr. Econ. 51(5), Dec. 1969, pp. 1543-1547; and

Carman, Hoy F., "Tax Shelters in Agriculture: An Example for Beef Breeding Herds," Amer. Jour. Agr. Econ. 50(5), Dec. 1968, pp. 1591-1595.

In these two papers, Carman lists the means by which farmers and nonfarmers can reduce income tax liabilities by using farming enterprises. In the first paper, he lists several proposed changes in the tax law, and in the second, he describes how beef breeding herds can provide a tax shelter for farm and nonfarm investors.

C-2 Coffman, George W., "Corporations With Farming Operations," See Scofield, William H. and George W. Coffman.

C-3 Coffman, George W., and William H. Scofield, "Corporations Having Agricultural Operations, Preliminary Report II," See Scofield, William H. and Coffman.

C-4 Collins, Geoffrey P., "Contracts for Deed and Capital Leasing in Oklahoma," Okla. State Univ., Dept Agr. Econ. Paper AE-6618, Jan. 1966, 21 pp.

Characteristics and prevalence of the contract for deed (land purchase contract) are discussed. Suggestions regarding statements appearing in the contract to protect both the buyer and seller are given. Characteristics of 85 contracts for deed in Oklahoma are presented. Leasing of capital goods, such as land, machinery, hog houses, and silos, is discussed briefly.

C-5 Coolidge, J. H., Phil Henderson, R. N. Weigle, and John Moore, "Income Tax Management for Farmers," Univ. Mo. Coop. Ext. Serv., North Central Region Pub. No. 2, revised 1967, 12 pp. (Updated 1970 with Weigle as senior author.)

The authors explain the influence tax management has on farm business success. This extension publication discusses tax records, managing incomes, reporting losses, sales and trades of property, and certain tax management tips.

C-6 Cornell University, Department of Agricultural Economics, "Investment Decisions for Greater Profits," Dairy Mgt. Workshop Manual, 1969, 144 pp.

The workshop is a combined effort by Cornell, Ohio State, Massachusetts, Rutgers, Vermont, and Pennsylvania State Universities to devise a fundamental treatise of investment decisionmaking in farming. Concepts of costs, present-value measures of investment worth, cash flows, capital costs, and handling uncertainty are included. Guidelines for determining yield, compound-interest and present-value tables, and sample cases are included in the appendix.

C-7 Corty, Floyd L., "Leasing Farm Land for Rice Production," La. State Univ., Agr. Expt. Sta. D.A.E. Res. Rpt. No. 383, Sept. 1968, 33 pp.

This report discusses existing leases on rice farms in Louisiana, suggests a procedure for developing an equitable lease, and briefly compares returns from more formally developed leases. The author assumes an equitable lease is where landlord and tenant share the returns from land use in the same proportion that each contributes to production.

C-8 Cotner, M. L., M. E. Wirth, and J. R. Brake, "Credit Experience of Commercial Crop and Livestock Farmers in Purchasing Land in Michigan," Mich. State Univ., Agr. Expt. Sta. Art. 45-67, May 1963, 14 pp.

The Michigan Farm Credit Panel of farmers was surveyed and resulting information is provided on land transfers, financing transfers, and type, amount, and source of credit used in 1930-59. Repayment schedules and downpayment levels are also described.

D-1 Davenport, Charles, "Farm Accounting Rules and Share Crop Rents," in Farm Corporations and their Income Tax Treatments, proceedings of a seminar held at Washington, D.C., in Nov. 1969, U.S. Dept. Agr., Econ. Res. Serv., Farm Prod. Econ. Div., Mar. 1970, pp. 1-49.

Davenport, a member of the bar, discusses the accounting methods allowable for income tax purposes by farmers, and the likely impact of future changes in accounting rules.

D-2 Davidson, J. R. and T. W. Witzel, "Merchant Credit and Montana Agriculture," Mont. Agr. Expt. Sta. Cir. No. 243, Apr. 1963, 12 pp.

This extension circular outlines merchant credit use in Montana as determined by a survey of three counties in 1959-60. It explains the problems involved in using merchant credit. The forms of merchant credit used are discussed, as are the policies existing for obtaining credit for purchasing different farm supplies. An example of circumstances under which merchant credit could be profitably used is included.

D-3 Delvo, Herman W., "Federal All-Risk Insurance for Row Crops," Univ. Nebr. Expt. Sta. Quarterly, Winter, 1970, pp. 14-17; and

Delvo, Herman W., "Federal All-Risk Wheat Insurance in Nebraska, Effective With the 1970 Crop Year," Univ. Nebr. Expt. Sta. Quarterly, Summer, 1969, pp. 20-24.

Delvo describes the 1970 Federal all-risk insurance program applicable to Nebraska farmers in both of these articles. He discusses the conditions necessary for a valid contract regarding closing dates, planting dates, acreage reports, and replanting. Provisions for indemnity payments, assignment of the contract for obtaining credit, and adequacy of the insurance relative to production costs are briefly considered. Availability of insurance for various crops is indicated by county in Nebraska. Crops considered are wheat, corn, grain sorghum, soybeans, and dry edible beans.

D-4 Delvo, Herman W. and Dale O. Anderson, "Appraisal of Federal All-Risk Crop Insurance Coverages and Premiums in North Dakota Effective With the 1969 Crop Year," N. Dak. State Univ., Dept. Agr. Econ. Rpt. No. 65, Mar. 1969, 39 pp.

The authors describe the provisions of Federal all-risk crop insurance and the procedures to be followed to ensure that the policy is in force. The adequacy of the insurance to cover investment in wheat, barley, flax, and oats is analyzed by county in North Dakota. The premium rates and changes in premiums by county are listed. Premium rates for private hail insurance are also listed by county.

D-5 Delvo, Herman W. and James D. Greer, "Hail Insurance: An Analysis of Policy Forms in Nebraska 1969," Univ. Nebr., Dept. Agr. Econ. Rpt. No. 51, July 1969, 19 pp.

The authors describe the hail hazard in Nebraska and discuss methods of insuring against it. Prevailing policy forms, their provisions and conditions, and premium rates for various crops and areas of the State are discussed.

D-6 Delvo, Herman W. and L. D. Loftsgard, "All-Risk Crop Insurance in North Dakota," N. Dak. State Univ., Dept. Agr. Econ. Bul. No. 468, Mar. 1967, 51 pp.

An index of crop production risk for each county in North Dakota was formulated and the State was divided into low, medium, and high risk areas. About 66 farmers in each area were surveyed to determine their demand for insurance and the organizational and institutional factors affecting their use of insurance. A history of all-risk crop insurance since 1939 is presented. Coverages and premiums for 1963 are given and compared with those for hail insurance.

D-7 Dennistoun, R. M., T. R. Nodland, and P. R. Hasbargen, "Leasing Farm Machinery," Univ. Minn., Dept. of Agr. Econ. Rpt. No. 291, July 1967, 26 pp.

This publication provides information to help farmers decide whether to lease or buy machinery. Leasing rates as percentages of retail list price are suggested, based on length of the lease agreement. The analysis and break-even prices and acreages are based on these rates. The effect on the lease or purchase decision of flexibility desired, risk and uncertainty, capital availability, lease limitations, pride of ownership, and the like are considered. Specific examples for the own-or-lease decision are given for tractors, balers, and combines.

D-8 Dillon, John L. and Earl O. Heady, "Theories of Choice in Relation to Farmer Decisions," Iowa State Univ., Agr. Expt. Sta. Res. Bul. No. 485, Oct. 1960, 24 pp.

This study considers various game theoretic decision models usable for cattle feeding decisions, including those espoused by Wald, Savage, Hurwicz, Laplace, Simon, and Schackle. The study assesses them on how they correspond to actual decisions made by 77 Iowa farmers in 1957-58. The authors formulate and assess their own normative model of the feeder-cattle decision problem. Results indicate that the models studied had almost no role in describing the actual farmer's decision process, but appeared to have important normative implications if used for decisions on cattle feeding. The authors point out that the game theoretic models used profit maximation as the dominant goal, which may not exactly describe the farmer's basis for decisionmaking.

D-9 Doll, Raymond J., "Cattle Feeding in the Tenth District: Financing," in Monthly Rev., Federal Reserve Bank of Kansas City, Mo., July-Aug. 1970, pp. 11-18.

Methods for obtaining financing for cattle feeding in Central Plains States are reviewed. The article is based on a 1970 survey of 31 feedlots, seven banks, a Federal Intermediate Credit Bank, a life insurance company, and a regional office of the Small Business Administration. The investment in real estate and equipment, feed inventories and operating costs, and cattle is itemized for various sized feedlots. Sources of capital for each of these items used by the surveyed feedlots are described. Arrangements by banks and production credit associations to service very large loan requests from single feedlot operators are reviewed.

D-10 Duft, Ken D., "Financial Ratio Analysis, An Aid to Agribusiness Management," Wash. State Univ., Coop. Ext. Serv., reprinted May 1969, 56 pp.

The author lists 41 financial ratios derived from a firm's balance sheet and discusses individually the information they reveal and their use in management of the firm. He includes a sample exercise in which 5 years of data are obtained from a hypothetical firm; most of the 41 ratios are computed for each year.

D-11 Duvick, Richard D., Alternative Methods of Financing Growth on Michigan Dairy Farms, unpublished Ph.D. thesis, Mich. State Univ., 1970, 151 pp.

The author uses a multiperiod linear programming model to investigate the factors involved in expanding a dairy enterprise. Goals of the firm are maximizing net worth and net income with equal weights. Variables tested are alternative levels of beginning equity, downpayment requirements for short- and long-term borrowing, repayment terms for long-term debt, alternative goals of the operator, appreciation in land values, investment credit, and milk prices. Input coefficients are included in the appendixes.

E-1 Ecker, George A., "Estate Planning," in Connecticut Dairy Notes, Univ. Conn. Coop. Ext. Serv., in two issues, April-May and June-July, 1969, 6 pp. in all.

This article, written as extension information for farmers, briefly discusses estate transfers after death by wills, life insurance, and living trusts. Ecker indicates that transfers before death can be in the form of gifts, sale of the business, corporations, or partnership. He discusses settlement costs and estate taxes.

E-2 Ecker, George A., "Farm Business Contracts and Operating Agreements," Univ. Conn. Ext. Serv., No. 61-5, Mar. 1961, 30 pp.

Ecker discusses existing contracts and uses a budgeting approach to show how to evaluate them. Producer contracts include those for broilers, eggs, pullets, cow pools, and dairy herd replacements. Farm operating agreements discussed and evaluated include ordinary wage, incentive plans, partnerships, lease arrangements, corporations, and farm transfer contracts. This bulletin is written mainly as a device for training sessions with county agents.

E-3 Ehrich, R. L., "Futures Trading, Direct Marketing, and Efficiency of the Cattle Marketing System," Univ. Wyo., Agr. Expt. Sta. Res. Jour. 9, May 1967, 22 pp.

The author discusses the historical trend of direct marketing of cattle, pointing out that it is the least costly method of moving cattle from the range to the consumer, but it is an inefficient method of valuing cattle. The use of the Chicago futures market in pricing cattle is discussed and its effectiveness appraised. Use of the Kansas City feeder-steer futures market is recommended for Wyoming cattle raisers. The appendix includes futures contract specifications for live cattle and facts about futures contracts and trading.

E-4 Eichhorst, Ronald F., Farm Planning Using Linear Programming and Sequential Cash Flows: An Application to Extension Management Programs, unpublished M.S. thesis, Univ. Ill. 1970.

E-5 Eisgruber, L. M. and J. Neilson, "Decisionmaking Models in Farm Management," Canadian Jour. Agr. Econ., 11(1), 1963, pp. 60-70.

Available decisionmaking models of relevance to farm management problems are presented. The article gives a comprehensive review of the meaning of decisionmaking, elements of a decisionmaking model, and basic characteristics of currently available models. Both static and nonstatic situations under certainty, risk, and uncertainty are considered. The discussion of desirable qualities of a decision model and the review of basic literature within the field of decisionmaking are of specific interest.

E-6 Elder, William A., "Risk, Uncertainty, and Futures Trading--Implications for Hedging Decisions of Beef Cattle Feeders," Univ. Minn., Dept. Agr. Econ. Staff Paper P69-20, Aug. 1969, 47 pp.

Elder discusses at length the theoretical concepts found in the literature underlying knowledge, risk, and uncertainty. The main effort of the paper is to lay the background and develop a theoretical hedging decision model for cattle feeders. The mathematical elements and description of the model, which prescribe an optimal hedge for cattle feeders, given basic production and marketing decisions, are presented. He reports work underway to obtain parameter estimates and distributions to apply the model to reality.

E-7 Epperson, James E. and Sidney C. Bell, "Getting Established in Farming with Special Reference to Credit," Auburn Univ., Agr. Expt. Sta. Bul. No. 400, Apr. 1970, 30 pp.

The authors examine, through the case study technique, how beginning farmers are financing their farms. Eight farms are studied and discussed in detail. Also, a mail survey returned by 153 Alabama banks and production credit associations gave information as to the policies of lending institutions toward loans to beginning farmers (Farmers Home Administration policy was also determined). The authors then develop several suggestions and alternative solutions, based on the above analyses, that may assist low-equity potential farmers in financing a farm.

E-8 Ervin, David E., An Analysis of Alternative Capital Investment Evaluation Techniques with Adaptation of the Computer to the Net Present Value Method, unpublished M.S. thesis, Ohio State Univ., 1969.

E-9 Esmay, James L., The Economics of Selecting and Financing Mechanized Cattle Systems on Illinois Farms, unpublished Ph.D. thesis, Univ. Ill., 1969, 123 pp.

The objective of this study is to select the optimal production and financial plans for cattle feeding farms of various sizes. A linear programming model which maximizes profits was used to provide information concerning the number and type of cattle to feed, the feed handling equipment to purchase, and the way short- and long-term credit can be used most effectively to increase profits. The model did not allow acquisition of land for growth of the firm. The assumptions involved with linear programming and the activities and constraints are well specified in the text.

E-10 Everett, Bernard A., "Farmers of the 1970's and Beyond," paper presented to Tenth Ann. Agr. Indus. Forum, Univ. Ill., Dept. Agr. Econ., Feb. 1968, pp. 1-8.

Everett discusses the patterns of farms likely to be seen in the future. The perspective relative to size, methods of consolidation, economies, financial management, and organizational structure are considered. The author supposes that the functions of management of some farm firms will be given to several specialists who may be termed "diversified specialists." He discusses other management and personal considerations and the increasing role of advance marketing contracts.

F-1 Faris, J. Edwin, "Financial Management of the Farm-Firm, Resource Acquisition and Capital Accumulation," in A New Look at Agricultural Finance Research, proceedings of workshop on agricultural finance research, Univ. Ill., Dept. Agr. Econ. Agr. Finance Program Rpt. No. 1, 1970, pp. 30-40.

Faris discusses the various means by which resources can be acquired and capital accumulated by farm firms and notes some of the financial problems encountered in doing so. He discusses the paradoxes of (1) high marginal value products and resource surpluses and (2) low returns on capital and raising land values. He suggests that decision and growth models are needed to study the problems of farm financial planning.

F-2 Federal Reserve Bank of Chicago, "Farm Borrowing in the Midwest," Box 834, Chicago, Ill., 1969, 45 pp.

This publication is based largely upon surveys of banks and production credit associations conducted in 1966. The characteristics of bank loans to farmers, the adequacy of funds, loan limits, size of loans, lengths of maturities, interest rate levels, and characteristics of borrowers are reported. A comparison is made between banks and production credit associations regarding the characteristics of the farmers they serve, the relative rate of growth in amount loaned, and institutional limitations for the two types of lending agencies.

F-3 Fellows, Irving F. and William E. Phillips, "Impact Upon Net Income of Added Capital Invested on Connecticut Dairy Farms," Univ. Conn., Agr. Expt. Sta. Res. Rpt. No. 14, July 1966, 19 pp.

Thirty-eight Connecticut farmers who had obtained loans to increase the size of their dairy operations were surveyed and their success in terms of net returns during 1958-61 determined. Present value of additional income over a 10-year period is compared for the farms; it averages $2.16 for each $1 of newly invested capital. The authors conclude that investment in laborsaving equipment and cost-reducing facilities tends to have a higher investment return index than investment in expansion of buildings, herd size, or land.

F-4 Fife, C. Lynn, The Decision-Making Process in Large Independent Fluid Milk Firms in the Midwest, unpublished Ph.D. thesis, Purdue Univ., Aug. 1967.

A management game was designed to simulate a closed fluid milk market. Management teams from 22 independent firms in the Midwest made decisions simulating 4-1/2 years of operations. The objective of the study was to determine what the goals and decision-making processes of these firms consisted of by studying their attitudes, strategies, organization, and actions, in the passage of simulated time. Of specific interest is the view given of the team approach to decisionmaking. Much insight is gained in the ways these managers handled risk, credit, and growth of the firm.

F-5 Flaskerud, George K., Firm Growth Simulation as a Farm Management and Credit Evaluation Service, unpublished Ph.D. thesis, Okla. State Univ., 1970.

A model capable of simulating the growth of a firm producing grains, forages, and beef cattle over 25 years in a dynamic and certain environment is developed. Growth through land acquisition is emphasized. To obtain a distribution of outcomes, the model can be replicated up to 50 times, using different sets of price and yields each time. The effects on farm growth of method of land acquisition, different production plans, alternative financial arrangements, and beginning equity in land are determined.

F-6 Frick, George E. and Robert L. Christensen, "Base-Incentive Cow Rental Contract," Univ. N. H., Coop. Ext. Serv. Cir. No. 388, May 1967, 16 pp.

The authors suggest that dairy cow rental may be advantageous in certain cases to both owner and renter. Worksheets with examples for calculating annual owner and renter costs and a means of arriving at an equitable rental rate are provided. A sample rental contract is included.

G-1 Gamble, John Clark, Agricultural Credit, A Farm Income Factor, unpublished M.S. thesis, Auburn Univ., 1969, 134 pp.

The author studied credit practices by interviewing a sample of farmers in the Wiregrass Area of Alabama. Objectives were to determine the use of agricultural credit, attitudes toward credit use, and factors related to increasing farm incomes through credit use. Credit use is related to (1) social factors, including tenure, education, age, and nonfarm income and (2) economic factors, including cash receipts, cash expenses, net worth, net farm income, and investment earnings. Results indicate that farmers using larger quantities of credit had higher cash receipts, net incomes, and returns on investment.

G-2 Gatz, Jimmie R., The Effects of Federal Income Taxes on Arizona Ranch Investments, unpublished M.S. thesis, Univ. Ariz., 1966, 99 pp.

Budgets are used to determine present values of returns before and after taxes for Arizona cattle ranches. The basic objective is to determine what incentives exist for investing in the Arizona cattle ranch industry, because past studies have shown low or negative returns to capital invested. Two plant sizes, 200 and 700 animal units, were budgeted. Tax savings for investors in the 70 percent income tax bracket were estimated. It is concluded that even the tax savings for high-bracket investors was not sufficient to justify the investment in cattle ranches at prevailing ranch prices.

G-3 Gee, C. Kerry and John A. Edwards, "Predicting Farm Organization with Maximum-Profit Linear Programming Models," Oreg. State Univ., Agr. Expt. Sta. Spec. Rpt. No. 260, Sept. 1968, 64 pp; and

Gee, C. Kerry, An Analysis of Factors Which Contribute to Differences Between Actual and Programmed Optimum Organization on Individual Farm Units, unpublished Ph.D. thesis, Oreg. State Univ., 1968.

Three general programming models are constructed for each of 20 farms in Wasco County, Oreg., to study factors which limit linear programming as a predictive tool in supply response studies. Model I represents shortrun optima, model II maximizes profits, and model III minimizes costs in the long run. Indexes are developed to compare actual with programmed organization, where actual organization is defined as the average for each farm during 1963-66. Regression procedures provide a means for establishing relationships among the farmers and differences between actual and programmed organizations. Errors in specification of enterprise in linear programming models are found to be a major factor in creating differences between actual and programmed farm organizations.

G-4 Gentry, James A., "A Synthesis of Portfolio Theory," Univ. Ill. Dept. of Finance, presented at a seminar, Financing Economic Choices of the Farm Firm, Oct. 1970, 18 pp.

This paper may be classed among those concerning investment decision theory. Selection of an investment portfolio has application to farm firms, though the author does not make such application. The discussion briefly and plainly presents the elements of the portfolio theory as developed by Markowitz and expanded by later researchers. Gentry also discusses the problems inherent in the model, suggests an alternative measure of risk of the individual alternatives, and discusses the direction future research should take on the subject of investment decisions.

G-5 Gilchrist, Varge, Projecting Capital Accumulation for the Agricultural Firm-Household, unpublished Ph.D. thesis, Oreg. State Univ., May 1963.

Regression methods were used to estimate the effect of income taxes, family size, level of living, level of management, various credit arrangements, and unpaid family labor on the growth in net income of the firm. Cross-sectional data from a sample of farms in Marion County, Oreg.,were used to test the relationships among the variables.

G-6 Gill, Gurmukh S. and R. A. Andrews, "Growth Potential and Capital Accumulation Capacity of Medium Sized New Hampshire Dairy Farms," N. H. Agr. Expt. Sta. Res. Rpt. No. 15, Nov. 1970, 26 pp.; and

Gill, Gurmukh S., Growth Potential and Capital Accumulation Capacity of Medium Sized New Hampshire Dairy Farms, A Microdynamic Analysis, unpublished M.S. thesis, Univ. N. H., 1969, 136 pp.

Both references use 20-year multiperiod linear programming model to study growth of New Hampshire dairy farms. Criteria functions tested were maximizing net worth and net returns over time. Two beginning herd sizes of 35 and 50 cows and four beginning debt conditions (debt-free, 50 percent net worth, 35 percent net worth, and zero net worth) were considered. Land acquisition was by purchase only for the net worth criterion, and by purchase or renting for the net returns criterion. Results indicate that growth is directly related to initial resource base and level of equity.

G-7 Glass, Max R., A series of articles appearing in Management Memos, Va. Polytech. Inst., Coop. Ext. Serv., under the following titles: "What's in a Financial Statement," MB-64, Dec. 1968. 6 pp.; "Comparative Analysis of Financial Statements," MB-68, May 1969, 7 pp.; "Sources and Uses of Funds Analysis," MB-70, May 1969, 7 pp.; "Cash Flow Analysis," MB-72, April 1969, 4 pp.; "The Concept of Operating Leverage," MB-73, March 1969, 7 pp.

These articles provide statements and examples of the title subjects. They are oriented toward operators of farm firms and other business firms.

G-8 Golden, Willie I., The Effect of Variation in Physiological, Economic, and Institutional Factors on the Survival and Growth of Dryland Farms in the High Plains of Texas, unpublished Ph.D. thesis, Tex. A & M Univ., Aug. 1968, 186 pp.

A multiperiod linear programming model is used to determine the effect of desired growth rates, consumption, product prices, and tenure arrangement on the minimum starting equity needed for firm growth and survival. Also, the level of prices when entering farming and the effect on the model of average versus variable yield data are studied. The study considers dryland farms with only two enterprise alternatives (cotton and grain sorghum) in the southern Texas High Plains, with constant technology and prices. The objective function is the maximization of net returns (nondiscounted) over a 15-year period.

G-9 Graham, John R., An Analysis of Estate Planning by Arkansas Farmers, unpublished Ph.D. thesis, Univ. Ark., 1971. (The complete thesis is to be published in 1971 as an Ark. Agr. Expt. Sta. Bul.).

This study was undertaken to analyze nonsale estate planning by Arkansas farmers. Case studies are used to identify estate planning problems, evaluate current plans of farmers, illustrate alternative solutions, and analyze economic consequences of alternative estate plans. The thesis includes detailed analyses of gift and estate tax laws, wills, trusts, life insurance, forms of property ownership, and forms of business organization. Results indicate that current estate plans of all case-study farmers were inadequate with respect to their stated objectives. Estate planning problems are identified and discussed.

G-10 Graham, John R., "Basic Principles of Estate Planning: An Introduction," Univ. Ark. Agr. Ext. Serv., July 1970, 27 pp.

The author discusses the advantages of estate planning which revolve around fulfilling the desires of the property holder. He explains the tools to reduce estate erosion and to transfer the estate without sale. These are wills, lifetime gifts, trusts, life insurance, and the form of the ownership arrangement.

G-11 Great Plains Agricultural Council, "Crop Insurance in the Great Plains," Mont. State Agr. Expt. Sta. Bul. No. 617, July 1967, 96 pp.

This report culminates the research project undertaken by the Great Plains Agricultural Council (GP-8) concerning the above title. It summarizes the contributions of six States to the project. The purpose of the research was to appraise the all-risk crop insurance program offered by the Federal Crop Insurance Corporation. Besides describing the success of FCIC, the report emphasizes the strengthening of weak aspects of the program. Chapters include:

Background of the FCIC

Concepts, Theory, and Problem Solving

Attitudinal Reactions to the FCIC

Federal Crop Insurance and the Farm Business

Role of FCIC in a Changing Agriculture

Factors Affecting Success of the FCIC

Included also is an extensive bibliography on insurance; risk; income, price, and yield fluctuations; and related topics.

G-12 Great Plains Agricultural Council, Economics of Firm Growth, proceedings of GP-2 seminar, June 1965, S. Dak. Agr. Expt. Sta. Bul. No. 541, June 1967, 150 pp.

Major papers and authors included in this seminar proceedings are as follows:

"Conceptual Aspects and Problems in Formulating Firm Growth Research," J. R. Martin.

"Operational Gaming and Simulation as Research and Education Tools in the Great Plains," Odell Walker.

"Swedish Experiments in Planning for Economic Growth of Agricultural Firms," Ulf Renborg, Bertil Johnson, and Earling Skoglosa.

"A Multiperiod Stochastic Model of Firm Growth," Stanley R. Johnson.

"Observations and Reflections with Respect to the Session," Ulf Renborg.

"What's Ahead in GP-2," Warren R. Bailey.

G-13 Great Plains Agricultural Council, Management Strategies in Great Plains Farming, proceedings of workshop of GP-2 committee, Univ. Nebr. Agr. Expt. Sta. Pub. MP-7, Aug. 1961, 100 pp.

This publication incorporates the speeches and discussion papers presented at a conference by the Great Plains Research Technical Committee (GP-2) on farming in the Great Plains. Major papers and authors are as follows:

"Farming Problems in the Plains and Their Implications to Economic Research," Warren Bailey.

"Dynamic Programming and Management Strategies in the Great Plains," James S. Plaxico.

"Linear Programming Modifications With Emphasis on Variable Pricing," Laurel D. Loftsgard.

"Notes on Elementary Game Theory," James B. Hassler.

"Discriminant Analysis and Farm Management Research," Dwight M. Blood.

"Probability Analysis of Yield Data Including the Extreme Value Statistical Distribution," Don Bostwick.

"Farm Feed Reserves," Howard W. Ottoson.

"The Use of Hay Reserves as a Method of Stabilizing Farm Income," L. E. Langemeier and R. M. Finley.

"Research on Financial Management of Farms," Don Bostwick.

"Flexible Livestock Systems," Charles W. Nauheim.

"Spatial Diversification of the Dryland Farm Unit," Clarence W. Jensen.

G-14 Greer, Thomas V., Capital Planning for Firm Growth, unpublished M.S. thesis, Univ. Nebr., 1968, 42 pp.

A 30-year dynamic linear programming model is used to develop management strategies and test the influence on growth of repayment terms for borrowed capital, various security requirements for loans, and land acquisition by purchase or rent. The effect of expectations of capital gains is also considered. The conclusions are drawn on the basis of tracing the capital accumulation and land acquisition patterns during 30 years of operation of one case, rather than changing the levels of relevant variables and rerunning the 30 years of operation. Results indicate that expansion pressure is high in early years, making the use of credit and accurate planning in those years important.

H-1 Hagan, Albert R., "Economics of Feedlot Investment," Univ. Mo., Dept. Agr. Econ. Paper No. 70-9, Jan. 1970, 15 pp.

Hagan discusses economic considerations before the feedlot investment is made, including both longrun and shortrun net returns and cash flow. Three typical beef feedlot systems serve as examples in budgeting for investment choice.

H-2 Hagan, Albert R., "Farm Financial Management," paper presented at Delta Center Short Course, Univ. Mo., Dept. Agr. Econ. Paper No. 1968-7, Feb. 1968, 6 pp.

Hagan lists pertinent questions which help indicate the feasibility of farm investments. He also lists decision tools which are helpful in evaluating financial alternatives.

H-3 Hall, Hollis D. and Odell L. Walker, "An Economic Analysis of the Growth of Oklahoma Grade A Dairy Farms Using the Growth Simulation Technique," Okla. State Univ. AE-7012, Feb. 1970, 33 pp.; and

Hall, Hollis D., An Economic Analysis of the Growth of Oklahoma Grade A Dairy Farms Using The Growth Simulation Technique, unpublished Ph.D. thesis, Okla. State Univ., 1969.

Both references use the simulation technique to study the effects of certain variables on the growth of a hypothetical specialized Oklahoma dairy farm. Variables include milk production per cow, interest rate, class I base values, wage rates, and consumption. Some 27 cases are described, which provide data for estimating a regression equation in which net worth acts as the dependent variable with the variables listed above as independent variables. Results indicate that production per cow affects growth more than any other factor, while wage and interest costs have little effect.

H-4 Halter, A. N., "Models of Firm Growth," Jour. Farm Econ. 48(5), Dec. 1966, pp. 1503-1512.

Halter presents a mathematical model showing the dependence of capital accumulation on growth rate and retention ratio. An algebraic equation is specified to represent a growth function. He concludes that methods other than analytic ones are necessary to fully elucidate models studying growth of farm firms. Discussion of this paper and an alternative specification of growth of the firm by Robert F. Hutton is included in the same issue of the journal.

H-5 Halter, A. N., "Simulation Models in Decisionmaking," paper presented at Western Agr. Econ. Res. Coun. Range Committee meeting, July 1965, at Portland, Oreg., 37 pp. (Author is at Oreg. State Univ.)

The general nature of computer simulation and its decisionmaking framework is discussed. Special emphasis is given a DYNAMO model and its application to range-feedlot operations in California and to water use from the Calapooia River in Oregon. Both of these applications are described in detail, illustrating the use of simulation in growth and planning studies.

H-6 Hamlin, Edmund T., M. E. Wirth, and James Nielson, "Credit Use and Financial Progress on Michigan Farms," Mich. State Univ., Agr. Expt. Sta. Bul. No. 445, Aug. 1963, 31 pp. (Hamlin is now with U.S. Dept. Agr., Econ. Res. Serv., Farm Prod. Econ. Div.)

The study determines how Michigan farmers on four types of farms financed their farming enterprises, where they obtained credit, and how the use of credit affected financial success in farming. Personal interviews were conducted in 1954 and again in 1958 for 108 farms. The farmers' financial position at the beginning and end of the study, amounts of credit used, purposes of loans, sources of credit, length of term, and security required are described.

H-7 Hardy, W. E., Jr., The Effects of Alternative Credit Policies on Farm Firm Growth, unpublished M.S. thesis, Va. Polytech. Inst., May 1970.

A multiperiod linear programming model was used to determine the effects of land availability, labor supply, and various credit policies on the growth of a Grade A dairy. Results indicate that land and labor availability have a large effect on firm growth, proper credit use allows rapid growth, the loan payback period should be linked to the life of the asset, and the outlook for growth in Virginia's dairy industry looks promising.

H-8 Harl, Neil E., "Do Legal and Tax Rules Favor Large Scale Agricultural Firms?" Amer. Jour. Agr. Econ. 51(5), Dec. 1969, pp. 1381-1392.

This paper describes existing tax laws affecting large- and small-scale farms. In answering the question posed in the title, the author concludes that the laws do not systematically favor large-scale farms. He points out certain provisions which favor each size.

H-9 Harl, Neil E., "Farm Estate and Business Planning," paper presented at an estate planning conference held at Purdue Univ., Nov. 1969. Published by Iowa State Univ., Dept. Econ., Nov. 1969, 67 pp.

Harl first gives an overview of the legal problems involved in estate and business planning. He then discusses estate planning which involves the termination of a family's firm at or before death of the parents. Finally, corporations and partnerships which continue beyond the death of the parents are considered from the viewpoint of planning the estate.

H-10 Harl, Neil E., "Legal Aspects of Farm Reorganization," Iowa Agr. Expt. Sta. Jour. Paper No. J-5960, also published in The Structure of Southern Farms of the Future, Natl. Policy Inst., N. C. State Univ., ed. by Charles R. Pugh, Aug. 1968, pp. 107-140. (Second reference includes discussion by Cecil D. Maynard.)

In addition to describing the attributes of various organizational alternatives (corporation, partnership, and trust), Harl discusses the economic functions that the farm organization is expected to perform. Economic functions included are maintaining internal efficiency, simplifying ownership and income accounting, expanding planning horizons, and accumulating capital. Maynard, in a nine-page discussion in the second publication cited, adds to the subject by itemizing the ways that self-proprietorship, partnerships, corporations, and trusts contribute to or detract from good management of the firm.

H-11 Harl, Neil E., "Resource Allocation and Capital Accumulation in Corporations Under Subchapter S of the Internal Revenue Code," in Farm Corporations and Their Income Tax Treatment, proceedings of a seminar held Nov. 1968, at Washington, D.C., Mar. 1970, pp. 124-168.

A corporation organized under provisions of subchapter S does not pay income tax, though it is organized in many ways like other corporations which do. Certain advantages and disadvantages exist from a farmer's point of view in his farm's incorporation under subchapter S provisions. Harl discusses the nature of such corporations and gives the economic considerations which are important in evaluating the subchapter's use.

H-12 Harris, Gene, The Effects of Knowledge of Lending Policies and Farm Credit Needs on Capital Rationing, unpublished M.S. thesis, Univ. Ky., 1965.

Surveys of borrowers and lenders in 1964 are used to study the actions of Kentucky farmers in deciding where to obtain farm loans. The effects of internal and external capital rationing on farm success are considered. Opinions of borrowers and lenders regarding perpetual debt are given. The study recommends that production credit and Federal land bank Associations be combined, that larger loans be made available, and that loans be based more on managerial ability and earning capacity and less on security offered.

H-13 Harris, Marshall and Dean T. Massey, "Vertical Coordination Via Contract Farming," U.S. Dept. Agr. Misc. Pub. No. 1073, Mar. 1968, 101 pp.

This report presents an overview of the legal and economic nature of contract farming. Characteristics of 420 written contract forms representative of major agricultural commodities are reported. The bulk of the report describes the legal-institutional structure within which contracts are executed, performed, and enforced. The analysis applies to all types of contracts, agricultural or otherwise.

H-14 Harrison, Virden L., An Analysis of the Costs of Producing Grade A Milk in the Portland, Oregon, and Boise, Idaho, Areas, unpublished M.S. thesis, Oreg. State Univ., 1966, 90 pp.

Sixty Grade A producers in the Portland and Boise areas were interviewed and their 1964 costs and returns determined. These areas are compared and suggestions are made for improved efficiency. Of special interest in a financial management sense is a section on factors involved and the feasibility of changing from non-grade A to Grade A production. Formulas are derived to determine the number of years required to pay for the added investment in upgrading from the additional funds received. Also, 314 usable mailed questionnaires completed by ex-dairymen in Oregon are analyzed to isolate factors that caused them to leave dairying.

H-15 Harrison, Virden L., Management Strategies and Decision Processes for the Growth of Farm Firms, unpublished Ph.D. thesis, Purdue Univ., Aug. 1970, 216 pp.

Harrison developed a farm firm growth and decision simulator and used it as an "experimental plot" to test the effect and interactions of several strategies on a hypothetical Corn Belt farm's growth over 15 years. Strategies tested are land acquisition by purchase versus renting versus either or both, size of land parcel acquired, downpayment level for land, length of repayment term for long-term loans, level of equity required before considering remortgaging land, use of livestock in the growth venture, price and yield predicting ability of the farmer, and starting asset position. Livestock enterprise alternatives included beef cow-calves, steers, sows (in three possible systems), and hogs (at one and two groups per year).

Harrison develops a method for choosing among farm investment alternatives which he considers useful for farmers whose goal is rapid growth of the firm. He also develops a means to project historical prices and yields into the future so that all crop and livestock enterprises retain their historical relation. He also develops a formula for determining "predicted" values which deviate from some known "actual" value with any desired distance and probability.

H-16 Harshbarger, C. Edward, The Effects of Alternative Strategies Used in Decision-making on Firm Growth and Adjustment, unpublished Ph.D. thesis, Purdue Univ., Jan. 1969, 217 pp.

Harshbarger's thesis expands on the work by Patrick and Eisgruber (references included in this bibliography) in developing a simulation model to study the farm growth process over time. He simulates an entire farm firm over a 20-year period with the objective of determining the effects on growth of price and yield variability, land acquisition policies, levels of equity required before additional land may be purchased, downpayment levels, and goals of the firm. Inputs and enterprises are representative of Corn Belt agriculture. Land acquisition is built-in as the first priority of the growing firm. Results show the relative effect of constraints and strategies on the ending net worth level of the firm.

H-17 Hasbargen, Paul, editor, "Corporate Farming," Univ. Minn., Dept. Agr. Econ. Staff Paper P70-7, May 1970, 36 pp.

This publication includes the papers presented at a seminar on corporate and large-scale farming at the University of Minnesota in April 1970. Titles and authors are as follows:

"The Corporate Form of Business," Willis E. Anthony.

"The Economies of Large-Scale Livestock Farming in the Space Age," Paul R. Hasbargen.

"The Economies of Large-Scale Crop Farming," Leonard Kyle.

"Tax Loss Farming," Leonard Kyle.

"Community Concerns Over Large-Scale Farming," Paul R. Hasbargen.

"Community Concerns Over Large-Scale Farming," George Donohue.

"Policy Alternatives," Vernon Ruttan.

H-18 Hazell, P. B. R. and R. B. How, "Obtaining Acceptable Farm Plans Under Uncertainty," paper submitted to 1970 conference of the Internatl. Assoc. Agr. Econ. held at Minsk, USSR, Aug. 24-Sept. 2, 1970, 11 pp. (The authors are at Cornell Univ.)

This article discusses several models which combine expected income levels with variation of expected income to suggest farm plans which agree with a farmer's utility function. Methods which can handle these criteria include parametric linear programming, quadratic programming, game theory, simulation, dynamic programming, and statistical decision theory. The authors give a mathematical definition of efficient two-parameter (income and variance) models.

H-19 Herr, William McD., "Gearing-Up for the 1970's," South. Ill. Univ., speech presented at Farm Management School at Louisville, Ky., Sept. 1969, 9 pp.

The author suggests the nature of farm units expected in the future and discusses ways to provide credit for these units. He defines and discusses farm financial management, stating that steps in financial planning include the determination of short- and long-term objectives and the formulation of financial procedures to accomplish them. He suggests setting up standards of performance for the firm and then taking remedial action whenever significant deviations occur. He suggests that production credit associations are in a position to be consultants to farmers on the financial management of their farms. This is because loan procedures are beginning to emphasize records, the computer, one-stop financing, and sophisticated business arrangements.

H-20 Herr, William McD., "The Changing Financial Structure of Agriculture--Problems and Opportunities," South. Ill. Univ., speech presented at 25th ann. agr. clinic held at Purdue Univ., Mar. 1969, 14 pp.

Herr examines the changing structure and organization of the agricultural industry and proposes a basis for this change. He speculates on tomorrow's farm units and points out opportunities and problems of providing credit to these units. He suggests that possible future farm organizations include large-scale family farm units, family corporations, nonfarm corporations, and vertically integrated enterprises.

H-21 Higbee, Richard, Cash Flow Analysis to Determine the Debt Repayment Ability of Maine Dairy Farmers, unpublished M.S. thesis, Univ. Maine, 1970.

H-22 Hill, Elton B., "Farm Transfer and Estate Settlements--Taxes and Legal Costs," Mich. State Univ., Coop. Ext. Serv. Bul. No. 628, Sept. 1968, 20 pp.

Within-family farm transfer arrangements and the legal factors involved in estate settlements are discussed. Current provisions for taxes on capital gains, gifts, inheritances, and estates are explained. Special emphasis is on legal rules applicable to the above for Michigan farmers.

H-23 Hill, Elton B. and Marshall Harris, "Family Farm Transfer and Some Tax Implications," Mich. State Univ., Agr. Expt. Sta. Spec. Bul. No. 436, 1961, 48 pp.

The advantages and problems of keeping a farm within a family at the retirement or death of the parents are considered. Methods of transfer of farms prior to and after death of the owner, and the State and Federal tax provisions applicable to such transfers are discussed.

H-24 Hillman, Christine H. and Donald D. Steward, "Financial Management Practices of Farm Families in Southeastern Ohio Agriculture," Ohio Agr. Expt. Sta. Res. Bul. No. 940, June 1963, 24 pp.

Data from interviews with 101 farm families in Ohio are analyzed to study the financial management characteristics of farmers. Characteristics regarding size of family, age, place of rearing, education, condition of home, farm enterprises, net income, and level of living are recorded. Financial practices studied include planning for use of income, insurance carried, credit, and borrowing practices. General characteristics of the operator are related statistically to sound management practices.

H-25 Hinman, Herbert R., Appraising Results of Alternative Financial Management Practices by Use of Simulation, unpublished Ph.D. thesis, Pa. State Univ., Dec. 1969.

Hinman simulates a farm over a 10-year period, with special emphasis on dairy, to study the effects of desired equity, use of crop insurance, and asset composition on the growth of the farm firm. He also varies yields, trends in milk price, land values, managerial ability, and land purchase versus renting policies, and studies purchase versus raising feed.

H-26 Hinman, Herbert R., "Lease-Buy Computer Program," Cornell Univ., Dept. Agr. Econ. A.E. Ext. 586, 1971, 23 pp.

A computer program was developed to provide monetary values to as many factors as possible in comparing leasing with purchasing decisions. The program is oriented toward machinery acquisition by farm or nonfarm firms. New York residents may have their particular situations analyzed by Cornell University by filling out a questionnaire. The bulletin describes in detail the input data required and the logic for the analysis. Input and output data for two examples are included.

H-27 Hinman, H. R. and R. F. Hutton, "A General Simulation Model for Farm Firms," Agr. Econ. Res. 22(3), July 1970, pp. 69-77; and

Hutton, R. F. and Hinman, H. R., "A General Agricultural Firm Simulator," Pa. State Univ., Dept. Agr. Econ. and Rural Sociol. A.E. & R.S. No. 72, revised July 1969.

A generally accepted theory of firm behavior is incorporated into an abstract computerized simulation model capable of handling many different environments and organizations. This model provides a means of studying management and growth, using the simulation approach, and requires, in most instances, only data needed to describe the local problem situation. For cases in which the situation to be studied is different from the general logic of the model, link points are provided at which the basic logic of the model can be modified.

H-28 Hjort, Howard W., "The Use and Effectiveness of Financial and Physical Reserves in Montana's Dryland Wheat Area," Mont. State Univ., Dept. Agr. Econ., Aug. 1959.

Year-to-year income budgets are constructed for a 1,640-acre dryland wheat farm, using 37 different yield series in north-central Montana and 30 series in northeastern Montana. Each yield series, varying in length from 14 to 24 years, all ending in 1956, is from an actual farm. The maximum financial reserves needed to carry the farm and family over the worst drought periods are computed.

H-29 Hobbs, Daryl J., George M. Beal, and Joe M. Bohlen, "The Relation of Farm Operator Values and Attitudes to Their Economic Performance," Iowa State Univ., Rural Sociol. Rpt. No. 33, June 1964, 177 pp.

This study determines some of the social, psychological, and economic characteristics of Iowa farm operators which relate to their economic success. Specific variables studied are goals, economic rationality, mental and analytical ability, and scale of operation. A sample of 131 farmers whose records for 1958-60 were on file was used to provide data for simple and multiple regressions of the variables. The literature review, the formulation of the conceptual model, the means of measuring the sociological variables, and a description of the farms in the sample are included in detail.

H-30 Hodson, R. Charles and Gene D. Sullivan, "Leasing Versus Buying Land for Sugarcane Production," La. State Univ., Agr. Expt. Sta. D.A.E. Res. Rpt. No. 370, Mar. 1968, 13 pp.

The problem of choosing between buying and renting land for sugarcane production is studied. The authors compare net returns to owned and rented land under various product price, land price, and rent assumptions. The capitalization method of land value determination is used.

H-31 Hoff, Frederic L., An Analysis of Risk Aversion Related to Selected PCA Borrowers in Missouri, unpublished M.S. thesis, Univ. Mo., 1968;

Hoff, Frederic L. and Albert R. Hagan, "Risk Aversion Characteristics Among PCA Borrowers," Univ. Mo., Agr. Expt. Sta. Res. Bul. No. 959, July 1969, 18 pp.;

Hoff, Frederic L. and Albert R. Hagan, "Borrower Opinions About Production Credit and Finance in Missouri," Univ. Mo. Proj. 390, Monog. No. 1, Apr. 1968, 8 pp.

Hoff, Frederic L. and Albert R. Hagan, "1965 Farm Income and Expenses--Variations Among PCA Borrowers by Types of Farming," Univ. Mo. Proj. 390, Monog. No. 2, May 1968, 14 pp.;

Hoff, Frederic L. and Albert R. Hagan, "Farm Assets and Liabilities Variations Among PCA Borrowers by Types of Farming in 1965," Univ. Mo. Proj. 390, Monog. No. 3, July 1968, 15 pp.;

Hoff, Frederic L. and Albert R. Hagan, "Personal Characteristics of PCA Borrowers in Missouri and their Practices in the Use of Insurance and Credit," Univ. Mo. Proj. 390, Monog. No. 4, July 1968, 15 pp.

These publications report information obtained from the loan and financial records of a sample of 186 Missouri production credit association borrowers. The borrowers represent five major types of farming in the State. The monographs describe the borrowers surveyed, while the thesis and research bulletin report the use of a multiple linear regression model to identify factors related to borrowers' attitudes and values concerning risk aversion. A risk aversion scale is developed and the success of farmers is related to their degree of aversion to risk.

H-32 Holcomb, J. M., "Budgets and Cash Flows as Financial Management Tools," in The Tenth Annual Agricultural Industries Forum, Univ. Ill., Dept. Agr. Econ. AE-4190, 1968, pp. 22-24.

Holcomb briefly points out the usefulness of the cash flow account in forecasting the flow of funds into and out of a business and in providing a basis for production and investment decisions. The main emphasis of the paper is on the use of a farmer's cash flow account by a lender in assessing a farmer's loan repayment ability.

H-33 Holt, John, "An Appeal for Research Related to Farm Management," speech presented at Agr. Econ. Res. Workshop, Univ. Fla., July 1970, 6 pp.

Holt recognizes the extent of large-scale farming in Florida and notes that little research has been done on existing or potential large-scale farms. He gives examples of diseconomies which were discovered only after firms had expanded. He notes the need for studies concerned with income-tax policy and income fluctuations.

H-34 Hoover, Dale M., "Lease and Transfer of Flue-Cured Tobacco Marketing Quota Among Farms for the 1966 and 1967 Crop Year: A Preliminary Report," N. C. State Univ., Dept. Econ., EIR-6, Dec. 1967, 25 pp.

Tobacco acreage allotments can be transferred by leasing to other farms, enabling a farmer to obtain larger, efficient productive units. Hoover describes rental rates for 1966 and 1967 by area for tobacco production States. He notes proposed changes in the transfer regulations and discusses their impact on the number and rates of allotment transfers.

H-35 Hoover, Dale M. and R. Charles Brooks, "An Economic Analysis of the Sale of Cotton Allotment Across County Lines in 1966," N. C. State Univ., Dept. Econ., EIR-7, Jan. 1968, 53 pp.

The sale of cotton allotments was authorized in 1965; leasing and diversion were allowed earlier. The authors report the extent of the sale of allotments, with special emphasis on sale across county lines. They also describe the farms making purchases and sales. Some attention is given to longrun effects on the cotton economy of allotment sales.

H-36 Hopkin, John A., "Agricultural Financial Strategies for the 70's," paper presented to Second Agr. Data Processing Workshop, sponsored by Amer. Bankers Assoc., St. Louis, Apr. 1968, 15 pp.

The paper begins with a discussion of the changing structure of agriculture. The author lists four separate groups of farmers: Owners of large corporate farms; owners of efficient, independent, commercial family farms; marginal farm operators; and part-time farmers. He discusses financial strategies inherent within each group and the part that bankers could play in a farm's success or demise. Stating that a modern commercial farmer regards hiring capital in the same way as he regards hiring labor, Hopkin lists and discusses five financial strategies for these farmers: long- and short-range financial planning, budget control, managing financial reserves, educating bankers, and estate planning.

H-37 Hopkin, John A., editor, A New Look at Agricultural Finance Research, proceedings of Sept. 1968 Workshop on Agr. Finance Res., Univ. Ill., Dept. Agr. Econ., Agr. Finance Program Rpt. No. 1, 1970, 156 pp. ($3.00).

This workshop consisted of at least 14 major papers or panel discussions and is probably the most comprehensive source of current farm financial management information available. In addition to the texts of the papers presented, the discussion regarding each is included in the publication. Listed below are the major papers and authors (some of these are discussed individually in this bibliography under the author's name):

"A Critical Review of Research in Agricultural Finance," John R. Brake.

"The Changing Nature and Environment of U.S. Farm Firms," M. E. Wirth and L. F. Rogers.

"Financial Management of the Farm-Firm, Resource Acquisition, and Capital Accumulation," J. Edwin Faris.

"Financial Aspects of Growth in Agricultural Firms," Charles M. Linke and John A. Hopkin.

"Estate Management and Intergeneration Transfers," Sydney D. Staniforth.

"Resource Entrapment in Agriculture," Gordon E. Rodewald, Jr.

"Financing the Farm-Related Firm," Panelists Dean McKee, Richard A. Westcott, and Nicholas Jamba.

"The Economic Role of Financial Intermediaries--Challenges of a Changing Agriculture," Ernest T. Baughman.

"The Financial Intermediaries and Future Financing of Farmers--Capabilities, Limitations, Needed Changes," Panelists John A. Hopkin, Lindley Finch, Aaron G. Nelson, Harold A. Miles, E. E. McLean, Paul Baichley.

"The Impact of Credit on Resource Use and Control," Harold G. Halcrow.

"The Role of Farm Credit in Welfare," Lyle P. Fettig and George K. Brinegar.

"In Search of Relevant Thought-Models for Agriculture Finance Research," George D. Irwin.

"Intelligence Requirements of Agriculture Finance," Panelists William McD. Herr, Raymond J. Doll, Harold A. Miles, John E. Lee, Jr., Kenneth H. Thomas, and J. H. Atkinson.

"Suggested Future Research in Agricultural Finance," R. J. Hildreth and K. R. Krause.

H-38 Hopkin, John A., "Debt Leverage in the Farm Business Growth Equation," Agr. Finance, May/June 1969, pp. 24-28.

The following equation is presented: $g = (1-t)(1-c)[r + (r-i) D/E]$ where g is percentage growth in equity, t is income tax rate, c is consumption rate, r is rate of return on owned investment, i is interest rate, and D/E is debt to equity ratio. The influence of each element of this equation which can be controlled by the farmer is discussed. Problems of borrowing adequate funds and alternatives to increasing debt are also discussed.

H-39 Hopkin, John A., "Financial Strategies for Commercial Agriculture," in The Tenth Annual Agricultural Industries Forum, Proceedings of the General Sessions, Univ. Ill., Dept. Agr. Econ. AE-4191, Apr. 1968, pp. 6-13.

The author discusses the changing structure of agriculture as regards large farm corporations, modern commercial farmers, and marginal farmers. He then discusses financial strategies for each of these groups. Financial strategies for suppliers of credit in serving the above groups of farms are outlined.

H-40 Hopkin, John A., "Leasing Versus Cash Purchase Versus Credit Purchase of Depreciable Assets," Univ. Ill., Dept. Agr. Econ. AET-7-69, Dec. 1969, 14 pp.

Hopkin recommends "present value of the cost stream" as a procedure for testing the economic implications of and choosing among three alternative methods of acquiring control of machinery. The methods compared are leasing, cash purchase, and 25 percent-downpayment credit purchase. He gives the theoretical basis for the use of the present-value concept, describes how it is computed with reference to machinery, and gives a physical example in comparing the three alternatives. Certain conclusions concerning the attributes of leasing are discussed.

H-41 Hopkin, John A., "The Corporation as an Effective Form of Business Organization for the Family-Oriented Agricultural Firm," Texas A & M Univ., Jan. 1971, 18 pp.

The financial management problems of a firm are discussed under four headings; financing firm growth, providing and maintaining management competency, conserving capital, and generating and conserving income. The attributes of sole proprietorships, partnerships, and corporations are then compared in relation to the above problem areas.

H-42 Hopkin, John A. and Thomas L. Frey, "Financing Agriculture in the Great Plains," in Agriculture Finance in the Great Plains, seminar proceedings, Great Plains Resource Economics Committee, Great Plains Agr. Council Pub. No. 51, assembled by Kansas State Univ., Dept. of Agr. Econ., Sept. 1970, 15 pp.

The authors (1) examine the changes occurring in the capital requirements of commercial agriculture in the Great Plains, (2) examine trends in the supply of loanable funds to agriculture in the Great Plains, and (3) identify problems associated with providing the needed increase in capital. Problems involved with obtaining debt capital and obtaining and transferring equity capital are discussed.

H-43 How, R. N. and P. B. R. Hazell, "Use of Quadratic Programming in Farm Planning Under Uncertainty," Cornell Univ., Dept. Agr. Econ. A.E. Res. 250, May 1968, 25 pp.

The authors point out that an optimal farm plan derived by linear programming may be one in which the expected income variability over time may be unacceptable to the farmer. Quadratic programming provides a means of obtaining a series of plans that provide minimum income variance for parametric increases in levels of expected income. The farmer can then select that plan which meets his desires regarding income and variability of that income. The author compares mathematically and graphically the optimum solutions derived from linear and quadratic programming. He uses a fresh-vegetable farm to illustrate linear and quadratic programming solutions and outlines the benefits from quadratic programming. He also points up several weaknesses in the use of quadratic programming.

H-44 Hubbard, Dean W. and Grant E. Blanch, "The Farm-Ranch Corporation, A Tool for Financial Planning and Management," Oreg. State Univ., Agr. Expt. Sta. Bul. No. 576, Feb. 1961, 31 pp.

The means by which a corporation can be used as a planning and management tool is discussed. Other topics involving corporations include capitalization and credit structure, taxing, insurance, retirement programs, legal requirements, cost of incorporating, and methods of dissolving corporations.

H-45 Huber, Hilmer, The Importance of Merchant and Dealer Credit in Financing Farm Production Expenses, M.S. thesis, N. Dak. State Univ., Oct. 1967. See Taylor, Fred R. and Huber.

H-46 Humberd, D. Raymond, "Actual Vs. Potential Growth of a Farm Firm: An Ex-Post Analysis," Southern Econ. Assoc. Proc., Feb. 1, 1971; and

Humberd, D. Raymond, A Multiperiod Analysis of the Effect of Selected Economic Variables on the Optimum Growth Process of Three Case Farms in the Mammoth Cave Area, unpublished Ph.D. thesis, Univ. Ky., 1970.

Both references use a multiperiod linear programming model to compare actual with optimal expansion organizations over an 8-year period. Objectives were to isolate factors which contribute to, or restrict, success of the firm and adjustment over time. Maximization of total net returns to operator labor, capital, and management comprised the objective function. Results indicated that factors which aided in the expansion process included (1) increased borrowing capacity during early periods, (2) a 2-year delay in repaying principal, and (3) increased livestock production per unit.

H-47 Hunt, James, An Analysis of the Lease or Purchase Decision Facing the Farm Manager, unpublished M.S. thesis, Ohio State Univ., 1967.

H-48 Hunt, James E. and E. T. Shaudys, "Farm Equipment Leasing," Ohio State Univ., Agr. Res. and Devlpmt. Center Res. Cir. No. 170, June 1969, 15 pp.

The authors describe the various methods of equipment control which include lease, rental, custom hire, ownership, and exchange. A method of deciding whether to purchase or lease is presented with numerical examples. Typical provisions of a lease contract are described.

H-49 Hutton, R. F. and Hinman, H. R., "A General Agricultural Firm Simulator," Pa. State Univ., Dept. Agr. Econ. and Rural Sociol. A.E. & R.S. No. 72, revised July 1969. See Hinman, H. R. and Hutton.

I-1 Irwin, George D., "A Comparative Review of Some Firm Growth Models," in Agr. Econ. Res., 20(3), July 1968, pp. 82-100.

Irwin discusses growth fundamentals for farm firms and research techniques being used to study them. He reports briefly the structure and contents of the multiperiod linear programming models of Swanson, Loftsgard, Irwin, Martin, Johnson, and Boehlje; the recursive programming models of Day, Schaller and Dean, and Heidhues; and the simulation models of Eisgruber, Patrick, and Harshbarger. He summarizes the relative benefits of each of these techniques in relation to growth of the firm.

I-2 Irwin, George D., "Challenges From Intermediate Credit," paper presented at Purdue Univ. Agr. Finance Clinic, Purdue Univ., Dept. Agr. Econ. 65-8, Mar. 1965, 14 pp.

The author cites the rapid increase in mechanization and specialization as the impetus for a greater use of intermediate-term loans to farmers. Since cattle and machinery can serve as chattels in their own right for expansion of same, some farmers invest in cattle instead of cropping inputs, even when the latter may be more profitable per dollar of investment. He reports the conclusions of several studies investigating lender attitudes and stresses the influence lenders can have in the successful management of farm firms.

I-3 Irwin, G. D. and C. B. Baker, "Effects of Lender Decisions on Farm Financial Planning," Univ. Ill., Agr. Expt. Sta. Bul. No. 688, Nov. 1962, 27 pp.

Banks and production credit associations were surveyed to determine their loan limits for five loan purposes on livestock and cash grain farms in Illinois. Hypothetical farms are identified and their production organization optimized for various loan limits by using linear programming. The consequences of various types of lender limits on farm organization and growth are then determined. One finding is that the purchase of cattle could displace the purchase of fertilizer despite the higher marginal value product for fertilizer because credit was absorbed at a lower rate for cattle than for fertilizer.

I-4 Irwin, G. D. and L. M. Eisgruber, "Potential Methods and Methodologies Useful in Firm Growth and Financial Management Research (What Next in Firm Growth Research)," Purdue Univ., Dept. Agr. Econ. 70-43, June 1970, 29 pp.

This paper is a theoretical and methodological treatise on possible approaches to financial management research. The authors draw on many sources to discuss universal models, objective functions, leverage, adaptive decisionmaking, theoretical concepts, the planning horizon, model validation, and generalization.

I-5 Islam, A. K. M. Serajul, Operating Loan Policy of Commercial Lending Agencies and Optimun Resource Allocation in an Irrigated Rice Area of Texas, unpublished Ph. D. thesis, Tex. A&M Univ., Jan. 1970, 168 pp.

The author describes common operating loan policies of lending agencies as applicable to typical rice farmers in Texas. Linear programming was used to optimize rice-beef cattle enterprise combinations for various levels of operating loan restrictions, interest rates, rice price, and management. Results indicate that level of capital is the most important limiting factor to optimal organization of the firm, while interest rates and product price have a relatively minor role.

J-1 Johanning, Cletus V., An Analysis of Factors Affecting the Financial Success of Farmers in Southern Illinois, unpublished M.S. thesis, South. Ill. Univ., June 1966, 54 pp.

The hypothesis of this study is that loan success can be determined more satisfactorily if credit managers explicitly consider other information than that which is usually available on loan application forms. Loan success was measured by average annual change in net worth of the sample farm records. Regression equations were used to determine variables important in determining loan success. It was concluded that variables obtainable from production credit association loan application forms accounted for 74, 42, and 40% of the variation in net worth for beef, grain, and hog farms. By addition of factors which measure resource use, rates of production, and net income, these percentages were increased to 87, 50, and 72 percent.

J-2 Johnson, B. and L. M. Eisgruber, "Annotated Bibliography on Simulation in Business Management," Purdue Univ., Dept. Agr. Econ., June 1969, 23 pp.

This annotated bibliography places primary emphasis on management of the farm firm. Though most of the 42 references included approach firm management problems by the simulation technique, not all do so. All references, however, contribute to the analysis of the economics of the firm.

J-3 Johnson, Jerome E., "Suggestions on Father and Son Farming Agreements," N. Dak. State Univ., Agr. Exp. Sta. Bul. 457, Sept. 1965, 19 pp.

This publication discusses the types of possible father-son arrangements, including employer-employee, landlord-tenant, and partners. Types and characteristics of partnerships are discussed in detail. Suggestions are made as to the distribution of net returns of the firm among partners. A complete suggested operating partnership agreement is included.

J-4 Johnson, Jerome E. and James P. White, "Family Estate Planning," N. Dak. State Univ., Agr. Exp. Sta. Bul. 463, revised Jan. 1969, 37 pp.

Prepared with assistance from the School of Law, this bulletin summarizes the methods of estate planning and transfer and the legal requirements involved. Estate and gift taxes as well as other settlement costs are explained. A survey of 838 North Dakota estate cases settled in 1960-63 are summarized. The bulletin is quite complete as an estate planning manual.

J-5 Johnson, Jerome E. and Keith Berg, "Livestock Lease Arrangements," N. Dak. State Univ., Agr. Exp. Sta. Bul. No. 465, July 1966, 20 pp.

This bulletin suggests the elements of a successful livestock share lease. Methods and hypothetical examples of equitable leasing arrangements are discussed. Special problems of livestock share leases are also considered.

J-6 Johnson, S. R., An Analysis of Some Factors Determining Farm Firm Growth, unpublished Ph.D. thesis, Texas A & M Univ., Aug. 1966; and

Johnson, S. R., "A Multiperiod Stochastic Model of Firm Growth," in Economics of Firm Growth, S. Dak. Agr. Exp. Sta. Bul. No. 541, June 1967, pp. 83-134.

Johnson develops a multiperiod linear programming model to determine the effects, over 15 years, on growth of dryland row crop farms in the Texas High Plains caused by initial asset position, wealth-credit ratio requirement, variability of crop yields, and consumption policies. He states that the study was oriented more toward development of technique than toward application. In his model, firms can expand only by purchasing more land.

J-7 Justus, Fred E., "Synchronizing the Total Production Input Process," unpublished paper, Univ. Ky., Dept. Agr. Econ., Feb. 1970, 24 pp.

The author describes ways of acquiring farm resources and allocating them in a sound organization. Three problems noted are inadequate resources, too many resources, or imbalance in allocation of resources on farms. Concerning labor acquisition, Justus maintains that farmers can afford and should pay more for labor than most now believe feasible. Considerations regarding land acquisition and control are discussed. Concerning acquisition of capital resources, farmers place too much weight on their own equity and not enough on debt repayment capacity, contends Justus.

K-1 Kadlek, John E., "Financing the Livestock Enterprise," Purdue Univ., Dept. Agr. Econ., 68-4, 1968, 20 pp.

This paper, presented to rural bankers at a seminar, discusses the roles of livestock in the farm business and the factors to consider when deciding the amount and kind of livestock to keep. Factors discussed include efficiency of managers, risk of enterprise, feed and labor supply, size and degree of specialization, capital available, and markets. He suggests guidelines for bankers in considering loan requests. A highlight is a report of the results of recent Purdue studies on costs associated with different systems of farrowing, nursing, and raising hogs.

K-2 Kansas State University, Department of Economics and Extension Service, "Corporation Farming," MF-188, Dec. 1967, 13 pp.

This publication lists the legal restrictions to corporate farming in Kansas. The possible advantages and disadvantages of corporate farming are discussed, together with comments regarding the possible effects of corporate farms on the Kansas agricultural structure.

K-3 Knudtson, Arvid C., "EDP Agricultural Records: The Key Issues," paper presented to Second Agricultural Data Processing Workshop, sponsored by Amer. Bankers Assoc., held at St. Louis, Mo., Apr. 1968, 10 pp.

The author discusses profit potential to banks as the key reason banks and other institutions are using or will use EDP for farm customers. He notes that farmers need a simplified recordkeeping system and discusses credit-use planning, determination of repayment ability, and timing of repayments as benefits to both banks and farmers of the use of EDP. He discusses the population of farmers likely to be customers of EDP management information systems and the reasons they require computer service.

K-4 Krause, Kenneth R., "Application of the Financial Management Function of the Family Size Farm Firm," Amer. Jour. Agr. Econ. 51(5), Dec. 1969, pp. 1536-1542.

Krause points out that financial management at the household level is broader and more inclusive than at the firm level. Research efforts can assist in household financial management by identifying household financial goals; analyzing ownership, investment, and operating strategies; and evaluating required managerial capacity.

K-5 Krause, Kenneth R., "Family Estate Planning," S. Dak. State Univ., Agr. Exp. Sta. Cir. 177, revised May 1967, 28 pp.

This publication discusses why farm managers and families should plan their estates. Transfers by will, joint tenancy, tenancy-in-common, gift, sale, trust, annuity, partnership, incorporation, and life insurance are considered. South Dakota inheritance taxes, as well as Federal estate and gift tax rates, are listed. Income tax effects and settlement fees of various transfer methods are discussed.

K-6 Krause, Kenneth R. and Leonard R. Kyle, "Economic Factors Underlying the Incidence of Large Farming Units, the Current Situation and Probable Trends," Amer. Jour. Agr. Econ. 52(5), Dec. 1970, pp. 748-763.

The authors describe the number and concentration of large U.S. farms. They point out the weaknesses of past cost and size studies and suggest the use of case studies followed by deductive procedures to develop workable models. Incentives for establishing or growing to large farm units are listed and discussed. Empirical evidence from recent interviews with owners of large corn farms of varying acreages is presented. The social and public institutional implications for large farms are briefly discussed. Implications for research, policy proposals, and farm input and marketing organizations are also presented.

K-7 Krausz, N. G. P., "Corporations in the Farm Business," Univ. Ill., Coop. Ext. Serv. Cir. 797, revised Aug. 1968, 46 pp.

This informational circular explains what constitutes a corporation, advantages and disadvantages involved, how a corporation is formed and dissolved, and the method by which the corporation should be operated. Sample corporate forms and agreements are included.

K-8 Krausz, N. G. P., "Installment Land Contracts for Farmland," Univ. Ill., Agr. Ext. Serv. Cir. No. 823, June 1967, 24 pp.

This informational circular explains the advantages and disadvantages to buyer and seller of the installment land contract, and their legal positions of both. Important contract clauses are presented and the Federal tax and other practical aspects of the contract are discussed. A sample contract is included.

K-9 Krausz, N. G. P., "Partnership in the Farm Business," Univ. of Ill., Coop. Ext. Serv. Cir. No. 786, revised May 1968, 39 pp.

This informational circular explains what constitutes a partnership, the advantages and disadvantages involved, and how a partnership is formed and terminated. Hints as to how a partnership should be operated and sample partnership agreements are included.

L-1 Langemeier, L. N. and R. M. Finley, "The Use of Hay Reserves as a Method of Stabilizing Farm Income" in Management Strategies in Great Plains Farming, Nebr. Agr. Exp. Sta. MP-7, Aug. 1961, pp. 67-71.

Annual production and income are budgeted for a stabilized and a flexible cow-calf enterprise on a 480-acre farm model in Nebraska for 1920-57, using constant prices. In the stabilized operation, the cow herd is held constant, and the surplus forage from "good" years is stored for use in "bad" years. In the flexible operation, the cow herd is adjusted to a 3-year moving average of actual forage production. Net incomes are analyzed for average, standard deviation, coefficient of variation, and number of years showing a net loss.

L-2 Lee, John E., Jr., "Acquiring Resource Services for Farming--Some Possibilities for the Seventies," speech at Michigan Bankers Assoc. Agr. Finance Clinic, East Lansing, Mich., Apr. 1969, 14 pp. (Author is with ERS, Farm Production Economics Division.)

Lee postulates that structural changes occurring in agriculture include increased separation of use and ownership, fewer and larger farm units, changes in the distribution of resource ownership, further distinction between land-based and nonland-based agriculture, and a higher degree of market coordination. Methods of acquiring access to resource services discussed are use of owned capital, renting or leasing, credit, custom services, vertical coordination, and corporate ownership. He lists several advantages and problems associated with the separation of resource use and ownership.

L-3 Lee, John E., Jr., "Resource Ownership and Use-Rights in Agriculture," speech at conference, The Structure of Southern Farms of the Future, at Auburn Univ., May 1968; published by Agr. Policy Inst., N. C. State Univ., Aug. 1968, 14 pp.

Lee points out the trend in agriculture toward the use by farmers of services (including land, livestock, and machinery) they do not own. He discusses the advantages and problems associated with this separation of ownership and use of productive services and expounds the implications of the trend on the structure of farming, income distribution, policy, and the image of farming. He also lists and discusses briefly the several means by which farmers acquire access to resource services, including owned capital, renting or leasing, credit, custom service, vertical integration, and corporate ownership.

L-4 Lee, Warren F., Conversion of Farm Assets for Retirement Purposes, unpublished Ph.D. thesis, Mich. State Univ., 1970; and

Lee, Warren F. and J. R. Brake, "Conversion of Farm Assets for Retirement Purposes," Mich. State Univ. Res. Rpt. No. 129, Jan. 1971, 12 pp.

Strategies are investigated which enable older farmers to realize their retirement goals. Two retirement alternatives include complete liquidation of the farm with proceeds going to nonfarm investment and retaining farmland and renting it out. Variables studied include life expectancy, capital losses, risk and returns associated with investment alternatives, liquidity, and ease of management. Results indicate that the strategy of liquidation of farm assets and reinvestment encounters transfer costs (capital losses) ranging from 11 to 40 percent of the value of productive assets prior to liquidation, because of capital gains taxes, nonfarm housing, realtor fees, broker commissions, and the like.

L-5 Levi, Donald R., "Federal Income Tax Law as an Incentive to Corporate Farming," Univ. Mo., Dept. Agr. Econ. Jour. Ser. No. 5696, May 1969, 15 pp.

Levi assumes that a taxpayer's goal is to maximize net asset accumulation over time, given an acceptable minimum annual income. Thus, he will seek to reduce income taxes paid. Agriculture in general is an attractive medium for accomplishing this goal and has attracted nonfarm capital as a result. Levi discusses the incorporation of a farm under provisions of the tax law in subchapters C and S, together with the problems and advantages extant for each.

L-6 Levi, Donald R., "Incorporating and Perpetual Indebtedness as a Financial Tool," Univ. Mo. Agr. Econ. Paper No. 1969-31, July 1969, 17 pp.

This paper, presented to a Young Farmers Conference, discusses the pros and cons of incorporating a farm business. Incorporation is associated with limited liability for owners, continuity of operations at death of owners, employee advantages, and unique income tax treatment. The author relates the concepts of incorporation and perpetual indebtedness, and discusses conditions under which perpetual indebtedness is practical.

L-7 Levi, Donald R., "Some Provisions of Subchapter C Potentially Applicable to Farm Corporations," in Farm Corporations and their Income Tax Treatment, proceedings of a seminar held at U.S. Dept. Agr., Nov. 1969, Mar. 1970, pp. 50-123.

This paper deals mainly with closely held (family corporations) as opposed to publicly held corporations. He discusses the income tax incentives for incorporating the farm under subchapter C provisions of the tax law, and points out advantages and problems which may be encountered. Other incentives for incorporation are listed in footnotes and in discussion highlights.

L-8 Levi, Donald R. and James K. Allwood, "Legal-Economic Models as a Tool for Optimizing Intergeneration Property Transfers," Amer. Jour. Agr. Econ. 51(5), Dec. 1969, pp. 1393-1398.

The authors trace the development of models which seek to optimize intergeneration property transfers. They discuss the models of Schulz, Harl, Harrison, and Allwood, and suggest the application of marginal analysis, linear programming, and simulation in potential future models.

L-9 Levi, Donald R., Leroy Rottmann, and Gary Sprick, "Estate Planning for Missouri Farmers," Univ. Ext. Div. Manual 68, 1967, 20 pp.

The authors discuss the meaning and objectives of estate planning. Considerations involving Missouri State inheritance tax, Federal estate tax, and Federal gift tax are discussed. Tools suggested for implementing an estate plan include wills, trusts, gifts, coownership, sale, annuities, partnerships, and incorporation.

L-10 Libra, Edward A., Mildred Novotny, and Arthur Shultis, "Farm and Home Financial Management," Univ. Calif. Agr. Ext. Serv. AXT-43, Feb. 1963, 16 pp.

Basic suggestions given for the financial management of farm and home include developing a financial plan, making a cash farm budget, computing net cash farm income, and budgeting for new investments. The authors stress the use of records, planning consumption expenditures in agreement with farm returns, and building financial protection through savings and insurance.

L-11 Lindsey, Quentin W., "Financing the Development of Commercial Farms," N. C. State Univ., Dept. Agr. Econ. Inform. Ser. No. 77, June 1960, 37 pp.

This study is oriented toward North Carolina farms. Its objectives are to define a family farm, determine the expenditures necessary to transform low-income farms into efficient commercial units, and determine the conditions under which credit should be extended to farm families to reorganize their farm. Lindsey discusses the gap between credit needed and that available. Three typical low-income farms serve as examples for the study.

L-12 Linke, Charles M. and John A. Hopkin, "Financial Aspects of Growth in Agricultural Firms," in A New Look at Agricultural Finance Research, proceedings of a workshop, Univ. Ill., Dept. Agr. Econ. Finance Program Rpt. No. 1, 1970, pp. 41-54. (The proceedings includes a discussion of the paper).

This paper develops an analytical framework for making investment decisions which thereby optimize the economic position of the owners of the firm. The paper is of a theoretical nature and recommends the present value of owner's net worth or wealth as the most rational criterion to be maximized in the investment decision process.

L-13 Lins, David A., "A Simulation Model of Land Investment and Growth on Midwest Cash-grain Farms," unpublished working paper, U.S. Dept. Agr., Econ. Res. Serv., Farm Prod. Econ. Div., Feb. 1969, 52 pp. (Lins is now at Univ. Ill.)

Lins develops a model to simulate the effect on growth of midwestern grain farms, over a 15-year period, of alternative land investment strategies, varying lengths of repayment term, downpayment levels for long-term loans, varying sizes of land purchased or rented, rates of interest, and variable product prices. Growth is allowed to occur only by land acquisition and a maximum total acreage constraint is imposed at 505 acres.

L-14 Litherland, Richard K., Internal Capital vs. External Capital for Optimum Production and Growth of the Farm Firm, unpublished M.S. thesis, South. Ill. Univ., Aug. 1963, 72 pp.

The author uses linear programming of a case farm (one-man operation) in southern Illinois to compare the success of the firm by using external capital as opposed to using strictly internally generated capital. The case farm is not allowed to increase its labor supply beyond 3,160 hours per year. After the programmed farm reaches the optimum size, excess profits are invested off the farm. He concludes that the profitability of the operation is limited by restricting capital to that generated internally.

L-15 Luckham, W. R., "Guidelines for Equitable Egg Production Contracts," Va. Polytech. Inst. Ext. Pub. No. 303, Sept. 1969, 33 pp.

The author discusses the variable nature of egg receipts and expenses and the need for contract production of eggs. He includes sample budgets containing coefficients of interest for two different egg production facilities and estimates returns from these systems. Six types of contract alternatives are discussed. A sample contract among a hatchery, feed company, and producer is included.

M-1 Martin, James E., "The Real Cost of Alternative Investments," Okla. State Univ., Dept. Agr. Econ., May 1966, 36 pp.

The author suggests partial budgeting and comparing present values of all added returns and costs as appropriate criteria for investment decisions. He provides basic investment formulas and interest factor tables. The effects of selected methods of depreciation are compared. Three numerical examples using the suggested technique are presented.

M-2 Martin, J. Rod, Polyperiod Analysis of Capital Accumulation and Growth Process of Farm Firms, Low Rolling Plains of Southwestern Oklahoma, unpublished Ph.D. thesis, Okla. State Univ., 1966; and

Martin, J. Rod and J. S. Plaxico, "Polyperiod Analysis of Growth and Capital Accumulation of Farms in the Rolling Plains of Oklahoma and Texas," U.S. Dept. Agr. Tech. Bul. No. 1381, Sept. 1967.

A multiperiod linear programming model is developed to analyze the effect on growth of the firm over 30 years of goals of the farmer, land acquisition methods, capital rationing, consumption, objective functions, and minimum starting equities. Expansion of the firm is allowed to occur only by renting or purchasing land.

M-3 Martin, J. Rod, Curtis F. Lard, and Toma J. Al-Bandar, "An Exploratory Approach: Incorporating Risks and Uncertainty Into a Polyperiod Growth Model," paper presented at a joint W-104 and GP-12 Committee meeting, Denver, Colo., June 1970, 48 pp.

A combination of three techniques--polyperiod linear programming, recursive programming, and simulation--was used to incorporate risks and uncertainty into a growth model. Investment decisions were based on expected crop yields, but results were determined by a different set of yields. Repeating the experiment 20 times, using different levels of actual yields, generated a range of results which simulate real life variable conditions.

M-4 Martz, Hugo, Frank Miller, and Fred Mann, "Should You Incorporate Your Farm?" Univ. Mo., Agr. Exp. Sta. SB-833, April 1965, 11 pp.

The organizational structure of farm corporations, their advantages and disadvantages, and the problems of organization and dissolution are briefly presented.

M-5 Mayberry, Ronald D., Effects of Debt Aversion on Investments in Cattle Feeding: An Application of Multiperiod Linear Programming, unpublished M.S. thesis, Univ. Ill., 1969, 99 pp.

Mayberry uses a 20-year, four-period linear programming model to test the effect of debt aversion on optimal production and financing of a hypothetical cash grain and beef farm in western Illinois. The objective function approximates the maximization of discounted ending net worth. Other variations to the basic objective include testing various lengths of repayment period, various beef prices, and changing the debt aversion level over time.

M-6 Maynard, Cecil D., D. B. Jeffrey, and Glenn Laughlin, "Estate Planning," Okla. State Univ. Ext. Cir. No. E-726, Oct. 1968, 49 pp.

This publication is a basic reference manual on estate transfer in Oklahoma. Objectives of estate planning and methods of owning and sharing ownership of property are discussed. Transferring ownership by contract, gift, sale, coownership, will, and law of descent are explained. Estate planning aids, estate and gift taxes, and settlement costs are explained.

M-7 McClelland, Robert C., The Optimum Method of Acquiring Resources as the Farm Firm Expands, unpublished M.S. thesis, South. Ill. Univ., Apr. 1969, 99 pp.

A multiperiod linear programming model is used to determine the optimum combination of cash buy, leasing, and amortized loan acquisition for resources--land, livestock, and equipment--on a larger-than-average southern Illinois farm. Other variables tested are family consumption, income taxes, labor requirements, and earnings per acre. The objective function is to maximize undiscounted net worth at the end of 25 years of operations. The optimum strategy is to acquire all resources with cash and to rent land whenever possible.

M-8 McMullan, Leroy S. and John H. Bondurant, "Tax Considerations Involved in Incorporating the Farm Business," Univ. Ky., Agr. Exp. Sta. Bul. No. 700, June 1965, 22 pp.

This report analyzes Federal and State income taxes and other tax considerations relating to an incorporated farm business during its organization, operation, and dissolution. Tax provisions for regular and subchapter S (of the tax law) corporations are considered. Some emphasis is on corporations subject to Kentucky laws.

M-9 McClure, Thomas A., Proposed Methods for Statistically Estimating the Repayment Capacity of Farm Borrowers, unpublished M.S. thesis, Ohio State Univ., 1965.

Methods of estimating repayment capacity of farm borrowers are proposed. One method developed involves calculating the probability of repayment of a given number of dollars, based on the farmer's past records of cash inflow and outflow. Benefits and weaknesses of this method are discussed.

M-10 Mighell, Ronald L. and Franklin J. Reiss, "Factor Leasing, Procurement Contracting, and Production Choices," in Production Economics in Agricultural Research, proceedings of a conference, Univ. Ill. AE-4108, Mar. 1966, pp. 151-170.

The authors explain the extent to which contracting occurs in the United States today and indicate the forces leading to this development. They suggest needed research in this area. A major part of the paper deals with the leasing of farmland and the relative shares of tenants and landlords. They make projections concerning farm leasing in the future as technology, land prices, and ownership patterns change.

M-11 Moore, C. V. and J. Herbert Snyder, "Risk and Uncertainty in Lettuce Production in Salinas Valley, California," Univ. Calif., Giannini Found. Res. Rpt. No. 300, Jan. 1969, 59 pp.

This is a basic document which applies theoretical concepts to the risk and uncertainty aspects of decisionmaking. The study of lettuce production and marketing is a study of risk and uncertainty. The authors discuss existing contractual arrangements for lettuce production and compare them empirically. The operating capital position of the farmer is discussed as to its effect on possible contractual arrangements. The authors apply linear programming to a 240-acre vegetable farm to determine optimum cropping systems under risk and uncertainty, and discuss the results and implications of these approaches. Also, a sample of growers was surveyed to determine their actual methods of adjusting to risk and uncertainty conditions.

M-12 Moore, D. S. and Rex Kennedy, "Effect of Size of Farm on Long Term Debt Repayment Capacity for Dryland Farms on Medium-textured (Mixed) Soils of the Texas High Plains," Tex. A & M Univ., Agr. Exp. Sta. MP-797, Feb. 1966, 16 pp.

Farms ranging in size from 160 to 960 acres are budgeted under three different combinations of management levels, prices received, and allotment restrictions to determine the effect of size on debt repayment capacity. Farm size is found to be positively correlated with debt repayment capacity, and repayment capacity is found to be related to commodity price.

M-13 Morris, W. H. M., "An Economic Appraisal of Agricultural Leases," Purdue Univ., Dept. Agr. Econ., unpublished speech, Mar. 1964, 13 pp.

This paper discusses the criteria to consider in choosing among methods of acquiring machinery services. Examples are given which illustrate comparison of cash payment, financial leasing, and purchasing at various downpayment levels. The suggested investment choice criterion is to choose the alternative which has the lowest present value of net cash outflow. The effect of interest rates, income tax rates, and investment opportunity rates on the optimal alternative is depicted. The author suggests a possible compromise between the lessor and lessee which may benefit them both.

M-14 Morris, W. H. M., "Some Observations on Growth of the Farm Firm," Purdue Univ., Dept. Agr. Econ., unpublished paper, July 1967, 11 pp.

This paper lists several obstructions to the development of very large farm businesses. These obstructions to growth center around the structure of U.S. agriculture and the characteristics of the farm operator himself. The focus of the paper is on the role of managerial ability and goals on the growth of the firm.

M-15 Mueller, Allan G., "Flow-of-Funds Analysis in Farm Financial Management," Jour. Farm Econ. 48(3)I, Aug. 1966, pp. 661-667.

The author suggests flow-of-funds analysis as an aid in the planning and financial management of the firm. Flow-of-funds statements indicate the sources of cash received by the firm, the use of cash in farm and family expenditures, and the effect of these on asset valuations. A flow-of-funds statement is illustrated and suggestions are made for its application.

M-16 Mundlak, Yair, "On Some Implications of Maximization With Several Objective Functions," Paper presented at Internatl. Assoc. Agr. Econ. conference at Minsk, USSR, Aug. 1970, 20 pp.

The basic argument of the paper is that "small differences between points on the efficient frontier may lead to wide differences in the production plan." This implies that farm operators may suboptimize by incorporating an organization in line with their own desires and still come near to optimum returns. Mundlak's example maximizes gross income for the optimization plan and then compares this plan with others in which a given percentage of gross income is used as a constraint and working capital is minimized. He is thus able to show suboptimum plans which allow totally different organications and lower working capital requirements, but which approach the maximum income attainable.

N-1 Nelson, Aaron G., "Financial Aspects of Growth of the Farm Firm," in Research into Economic Growth of the Farm Firm, conference proceedings, West. Agr. Econ. Res. Council Rpt. No. 6, Nov. 1965, pp. 45-53. (Author is at Univ. Ariz.)

Nelson defines growth as the rate of increase in capital available for use in the business. He hypothesizes that current depreciation charges contribute cash flow for replacing inventory and growth, implying that a large share of firm investment should be in depreciable assets. Size of farm is also discussed as a contributor to growth.

N-2 Nelson, A. Gene, "Decision Processes in Swine Management," in Reports of the Twelfth Annual Swine Day, Oreg. State Univ., Agr. Exp. Sta. Spec. Rpt. No. 316, Dec. 1970, pp. 14-17.

Awareness of the problem or opportunity is the first step in a firm's decisionmaking. Nelson stresses and gives examples of the use of the partial budget, the cash flow budget, and the net worth budget in analyzing swine investment decisions.

N-3 Nelson, A. Gene, The Feasibility of an Information System: The Beef Feedlot Case, unpublished Ph.D. thesis, Purdue Univ., June 1969.

The purpose of the study was to develop an operational management information system, which can provide recommendations of optimal buying, selling, and feeding policies within a beef feedlot activity. The system includes three integrated subsystems: an adaptive forecasting model of cattle prices, a linear programming model minimizing feeding costs, and a dynamic programming approach to a feedlot-operations scheduling system. In the model, the decisionmaker can assign subjective probabilities to given states of nature which can be revised or adapted over time on the basis of new information.

N-4 Neuman, Duane F., "Capital Requirements and Financing Practices for Restructuring Southern Agriculture," Jour. Farm Econ. 48(5), Dec. 1966, pp. 1550-1560.

The author summarizes three studies which determined the capital and organizational requirements by type of Southern farm to obtain $4,500 returns to an operator's labor and management. He indicates the number of Southern farms with low incomes and the alternatives they have. The effects of technological innovations, prices, and institutions on success in farm adjustments are discussed. He concludes that in financing the needed adjustments, poor managers who have little wealth have few opportunities, but that others may adjust by borrowing and leasing.

N-5 Nielson, Darwin B., "Economics of Range Improvements, A Rancher's Handbook to Economic Decisionmaking," Utah State Univ., Agr. Exp. Sta. Bul. No. 466, Apr. 1967, 49 pp.

This handbook presents basic data for use in deciding whether to invest in certain range improvement practices such as range reseeding and spraying. The internal rate of return method of choosing among alternatives is suggested and its computation described in detail.

N-6 Nielson, James, "The Michigan Township Extension Experiment: The Farm Families, Their Attitudes, Goals, and Goal Achievement," Mich. State Univ., Dept. Agr. Econ. Tech. Bul. No. 287, 1962, 71 pp.

The Michigan Township experiment was designed to determine whether increased incomes could be obtained as a result of five extension agents working intensively with families for 5 years. The 148 farms in the experiment were compared with 163 control farms as to their farming goals, attitudes, and goal achievement. Five townships in different counties were used. Results indicated that farms in the experiment made significantly more progress than control farms during the 5-year period. A description of the farmers, their goals, and their attitudes is included.

N-7 North Central Extension Public Affairs Committee, Corporation Farming--What are the Issues? North Central Workshop Proc., Chicago, Ill., Apr. 1969, published as Univ. Nebr., Dept. Agr. Econ. Rpt. No. 53, 72 pp.

Papers presented include the following:

"Corporations in Agriculture," Scofield, William H.

"General Remarks," Nelson, Gaylord

"Can the Antitrust Laws Prevent Monopolistic Food Prices?" Mueller, Willard F.

"Why Corporate Farming," Seckler, David W.

"Factory Farms Versus Family Farms, Some Concerns," Vollmar, Glen J.

"Can Family Farms Compete? A Farmer's Viewpoint," Raikes, Ralph

"Can Family Farms Compete? An Economic Analysis," Armstrong, David L.

"Farm Corporations--Present and Proposed Restrictive Legislation," Harl, Neil E.

"Federal Income Tax Law as an Incentive to Corporate Farming," Levi, Donald R.

O-1 O'Byrne, John C. and G. John Marmet, "Corporate Farm Interplay: A Survey of the Tax Aspects of the Use of Multiple Corporations and Acquisitive and Divisive Reorganizations as Related to the Corporate Farm," in Farm Corporations and Their Income Tax Treatment, proceedings of seminar held Nov. 1969, U.S. Dept. Agr., Econ. Res. Serv., Farm Prod. Econ. Div., Mar. 1970, pp. 169-206.

These authors consider the possibility of splitting a single farm corporation into two or more corporations as well as consolidation or merger of corporations. Points of existing law regarding these possibilities are discussed.

O-2 O'Byrne, John C., N. G. P. Krausz, Neil E. Harl, and Hein Jurgenson, "The Farm Corporation," Iowa State Univ., Coop. Ext. Serv. Pm-273, revised, Nov. 1967, 20 pp.

This informational publication describes the legal aspects of farm corporations. It discusses the reasons for incorporating, the method by which a corporation is formed and dissolved, and the tax considerations involved.

O-3 Olson, Carl E. and Dennis O. Sexhus, "North Dakota Extension Farm Records, A Guide to Farm Management Decisions," N. Dak. State Univ., Dept. Agr. Econ. Rpt. No. 60, Sept. 1968, 27 pp.

This study identifies 10 factors crucial to farm management decisions. The North Dakota Electronics Farm Record Program is described and the reports received by cooperators discussed in detail. The crucial factors computed in these reports consist of returns to labor and management, percentage return on investment, crop returns and expense per acre, fertilizer and seed expense per acre, livestock return per $100 worth of feed fed, machinery investment and costs per acre, and crop returns per dollar of crop expense. Guideline values are suggested for these factors and their use in decisionmaking discussed. A hypothetical case is used to illustrate their use in decisionmaking and problem identification.

O-4 Olson, Carl E. and Joseph H. Paulson, "Irrigation as a Farm Growth Strategy," N. Dak. State Univ., Agr. Exp. Sta. Bul. No. 486, Oct. 1969, 11 pp; and

Paulson, Joseph H., Irrigation and Farm Firm Growth, unpublished M.S. thesis, N. Dak. State Univ., 1968.

Forty-six farmers in northwestern North Dakota were interviewed and their operations in 1957, 1962, and 1967 studied to determine the influence of irrigation on the strategies of intensification, specialization, and diversification. Farms are divided into three groups; irrigation, livestock, and mixed. Characteristics and practices of each group are tabulated in both references. The influence of irrigation on the variability of incomes is indicated.

O-5 Olson, Carl E., Leroy W. Schaffner, and Dennis L. Powell, "Effect of All-Risk Crop Insurance on Farm Firm Survival," N. Dak. State Univ., Dept. Agr. Econ. Rpt. No. 61, Nov. 1968, 26 pp.

Three counties in North Dakota representing high, medium, and low-risk areas were selected to study the effect of all-risk crop insurance on incomes and their stability over a 10-year period. Over 30 typical farms in each county are budgeted, with and without crop insurance. Statistical comparisons of income with and without insurance are made. Results indicate that crop insurance stabilized but did not change the average level of net income over time.

O-6 Ortel, Dennis D., "The Transfer and Financing of Large Farms," Cornell Univ., Dept. Agr. Econ. A.E. Res. 180, Oct. 1965, 5 pp.

Fifty sellers of large farms (sale price more than $60,000 if dairy, and $30,000 if other than dairy) in New York were interviewed to determine the method of sale and financing arrangements involved. The farms are grouped by type and purpose of sale. Source of capital is also reported.

P-1 Palmer, David S., Financial Leasing: Its Significance and Potential for Acquisition of Capital by Commercial Farmers, unpublished M.S. thesis, Cornell Univ., Jan. 1971.

This study determines the availability of equipment leasing to northeastern farmers, compares the relative costs of leasing and purchasing major pieces of equipment, and determines the degree of farm acceptance of leasing as a substitute for ownership of machinery. Farm equipment dealers and financial institutions are among those surveyed. Case studies and discounted cash flow analysis provide the methodology for this study.

P-2 Pasour, E. C., Jr., T. E. Nichols, Jr., and G. L. Bradford, "Applying Economic Principles in Replacing or Purchasing Agricultural Equipment," N. C. State Univ., Dept. Econ. EIC-10, June 1969, 68 pp.

This report is primarily concerned with a discussion of the economic principles applicable to making equipment investment decisions. Cost concepts discussed are operating, overhead, and opportunity costs. Alternative methods evaluated for investment decisions include the depreciation (break-even) method and the rate of return (present-value) method. Of special interest is the application of economic principles to real-life decision problems.

P-3 Patrick, George F., The Impact of Managerial Ability and Capital Structure on Farm Firm Growth, unpublished M.S. thesis, Purdue Univ., June 1969, 131 pp.; and

Patrick, George F. and Ludwig M. Eisgruber, "The Impact of Managerial Ability and Capital Structure on Growth of the Farm Firm," Amer. Jour. Agr. Econ. 50(3), Aug. 1968, pp. 491-506.

A simulation model of farm firm behavior in a dynamic environment with elements of uncertainty is developed. The model considers expectations regarding future prices and yields, selection of alternative farm plans, evaluation of the expected outcomes of plans with respect to four goals, and implementation of the plan offering the highest level of overall satisfaction. Four variables at three levels each are simulated over a 20-year period. Variables include yield level, interest rate, long-term loan limit, and intermediate-term loan limit.

P-4 Paulson, Joseph H., Irrigation and Farm Firm Growth, unpublished M.S. thesis, N. Dak. State Univ., 1968. See Olson, Carl E. and Paulson.

P-5 Penson, John B., Capital Acquisition Opportunities and Their Economic Effect on External Capital Rationing on Southern Illinois Farms, unpublished M.S. thesis, South. Ill. Univ., 1967; and

Penson, John B., "The 'Wait-and-See' Investment Strategy," Agr. Finance Rev., Vol. 29, Feb. 1969, pp. 15-23.

Dynamic linear programming and simulation were used to determine the effect on net worth after 18 years of an immediate investment strategy versus a strategy of delaying investment 2 years in hopes of a fall in the interest rate level. Results are tested under various interest rate trends; yield, product price, and resource limitations; loan terms; and equity versus debt financing. Results indicate that individuals should not delay borrowing for farm investments because of expected small interest rate changes (1 percent per year).

P-6 Pine, Wilfred H. and Donald W. Meeker, "Farm Partnerships in Kansas," Kan. State Univ., Agr. Exp. Sta. Cir. No. 391, July 1963, 19 pp.

The authors suggest several requirements for successful partnerships. Major advantages and disadvantages of partnerships are listed. A typical farm partnership agreement is included.

P-7 Pine, Wilfred H. and Ronald K. Badger, "Buying and Selling Farms by Contract in Kansas," Kans. Agr. Exp. Sta. Cir. No. 390, revised Sept. 1965, 16 pp.

The extent, nature, and provisions of land contracts in Kansas are discussed in this circular. Laws applying to Kansas land contracts and characteristics of 59 contracts in western Kansas are described. Advantages and disadvantages to both buyer and seller are summarized. A sample contract is included in the appendix.

P-8 Pinna, W. P., R. C. Wells, and D. G. Harwood, Jr., "Estate Planning for North Carolina Farm Families," N. C. State Univ., Dept. Econ. EIR-15, Jan. 1970, 80 pp.

A comprehensive discussion of methods of settling an estate is included, with special emphasis on North Carolina statutes and farmers. Specific topics include property distribution in the absence of a plan, transferring property with a will, settling an estate, and transfers made before death. The role of estate, inheritance, and gift taxes are discussed as they relate to the planning of farm property transfers.

P-9 Pratt, William L., Effect of Capital on Income and Organization of Beef Farms in the Flint Hills of Kansas, unpublished M.S. thesis, Kans. State Univ., 1967, 35 pp.

The organization of a representative farm in eastern Kansas is optimized by linear programming to determine the influence of increasing levels of borrowed funds. Several beef raising and feeding alternatives as well as land acquisition alternatives are included in the 1-year model. Eight different levels of borrowed capital tested increased net income to the firm.

Q-1 Quenemoen, M. E., "Complete and Partial Budgets for Making Farm and Ranch Decisions," Mont. State Univ., Coop. Ext. Serv. Bul. No. 1066, Mar. 1969, 24 pp.

Quenemoen suggests a method of budgeting the farm business which gives the farmer full advantage of facts and reliable expectations in making decisions. Written largely for extension purposes, this bulletin describes the items to be included in complete and partial budgets, with an explanation of which yields and prices should be used in planning. Both land and livestock use budgets are explained.

Q-2 Quenemoen, M. E., "The Rate of Return on Capital Invested in Agriculture as Related to Acquisition and Salvage Values of Assets," in Western Agricultural Economics Association Proceedings, Aug. 1969, pp. 81-85.

Quenemoen suggests that the rate of return from farming investments be calculated by using the salvage value, instead of acquisition value, of assets in determining total investment value. He suggests this computation is more realistic and will yield higher returns than otherwise. Calculating in this way explains why resources have not moved out of agriculture because of the low rate of return, as some have predicted they would. Quenemoen illustrates the concepts by using Montana wheat farms as examples. He notes that resources are easily "trapped" in agriculture because they enter the business at acquisition prices, but can leave only at salvage values.

R-1 Rafeld, Frederick J., An Analysis of the Influence of Personal Attitudes, Goals, Management Ability, and Growth Strategies in Farm Firm Growth, unpublished Ph.D. thesis, Ohio State Univ., 1968, 226 pp.

Using group comparison and regression procedures to analyze data collected from 62 grain-hog farms in southwestern Ohio, Rafeld shows the effect on growth in net worth and total assets controlled of personal, nonpersonal, and strategy variables. The regression analysis reveals that nonpersonal variables (such as production efficiency, firm size, degree of specialization, and capital availability) explain more of the change in net worth, while personal variables (such as age, education, attitudes toward credit use, and risk acceptance), and growth strategies are more important in explaining growth in total assets controlled. Management and attitude scales are also developed, using psychological scaling. The study attempts to explain presently occurring changes in farm size. The literature review and theoretical constructs of firm growth are fairly complete.

R-2 Raup, Philip M., "Economies and Diseconomies of Large-Scale Agriculture," Amer. Jour. Agr. Econ. 51(5), Dec. 1969, pp. 1274-1283.

The author briefly describes the conclusions of available studies on economies of size. He indicates that these studies consider efficiency in resource use and profit, but do not generally consider the after-tax position of farmers, time, growth in management skills, or reduction in input costs for large-quantity orders. Possible diseconomies of large farms are discussed, which include inability to adjust production to price changes, labor considerations, pollution control, and social welfare concerns of the community. The potential for economies in market power and the role of social and institutional change in the firm are considered.

R-3 Raup, Philip M., "What Policies Should We Have Toward Corporations in Farming," speech presented at Williamsburg, Va., Nat. Agr. Policy Con., Sept. 1969, 13 pp. (Author is at Univ. Minn.)

Raup lists the types and characteristics of U.S. farming corporations, the climate of opinion regarding them, and certain incentives for incorporating. He expands on the advantages of large or corporate farms, lists possible consequences of the structure of corporate farms, and suggests a policy posture toward them.

R-4 Ray, Robert M., An Economic Analysis of Alternative Methods of Expanding Farm Acreage, unpublished M.S. thesis, N. C. State Univ., 1962.

R-5 Reed, A. Doyle, "Business Organization for Modern Farms," Univ. Calif., Agr. Ext. Serv. AXT-49, revised Feb. 1970, 8 pp.

The author discusses relevant criteria in choosing the form of organization best suited to an individual farmer's needs. For each of the organizational forms, including individual proprietorship, partnership, and incorporation, he discusses the procedure for organization, method of taxation, and advantages and disadvantages involved.

R-6 Reed, A. D. and J. H. Snyder, "What You Should Know About Farm Leases," Univ. Calif., Agr. Exp. Sta. Cir. No. 491, revised Jan. 1968, 10 pp.

This circular aims at helping tenants and landlords in drawing up mutually satisfactory land leases. A method of determining equitable rent is suggested, as are items to include in a written lease agreement. Sliding scale rents (cash or share) are discussed.

R-7 Reeder, Clinton B., Marginal Productivity of Credit for Programmed Farm Adjustments and Factors Limiting the Use of Credit in the Columbia Basin, Oregon, unpublished M.S. thesis, Oreg. State Univ., Aug. 1963.

The use of budgets of three size groups (240-560 acres, 561-880 acres, and 881-1200 acres) of farmers in the Columbia Basin yielded information regarding profitable adjustment possibilities. The use of credit for the firm's growth was found to be profitable in many situations. Reeder also examines the availability and use of credit in adjusting to optimal farm size in the Columbia Basin.

R-8 Reiss, Franklin J., "Developing Leases for Irrigated Farms," Univ. Ill., Dept. Agr. Econ. paper presented at North Central Farm Management Extension Workshop, held at Lincoln, Ill., May 1970, 17 pp.

The author indicates that because of new irrigation technology and changes in water availability, traditional leasing arrangements are no longer adequate. He discusses basic equitable leasing principles and proposes a share-lease arrangement for a farm being converted to irrigation. Returns and costs to both tenant and landlord are illustrated.

R-9 Reiss, F. J., "Farm Leases for Illinois," Univ. Ill., Coop. Ext. Serv. Cir. No. 960, June 1968, 65 pp.

The author discusses the objectives and legal requirements of farm leases. He lists qualities of tenants, landlords, and farms which are conducive to leasing arrangements and discusses the four types of farm leases in use in Illinois. He expounds the principles which govern the leasing terms. Special leasing problems are discussed and recommended lease forms are shown.

R-10 Reiss, F. J., "Father-Son Farm Operating Agreements," Univ. Ill., Coop. Ext. Serv. Cir. No. 969, July 1967, 28 pp.

The author discusses the intergeneration transfer and estate planning problems which give rise to needed operating agreements between father and son. The types of agreements discussed are partnerships, wage and bonus payments, enterprise share agreements, and various types of joint operatorships. Considerations involving setting up the agreement in accordance with short- and long-term goals of father and son are given. Two sample operating agreements are included.

R-11 Renborg, Ulf, "Growth of the Agricultural Firm: Problems and Theories," Div. Mktg. and Agr. Econ., Dept. Agr., New South Wales, Australia, Rev. Mktg. and Agr. Econ. 38(2), June 1970, pp. 51-101.

This review of growth theories centers on theories of interest for managerial direction of the growth process of agricultural firms. It starts with a discussion of growth, growth directions, the growth process, and associated problems. From this, an analytical procedure is built up, which states a set of desirable features that theories suitable to guide managers of agricultural firms should contain. In the light of these, the following theories of firm growth are discussed: the traditional neoclassical approach to firm size, extensions of this approach, the growth theories of Edith Penrose and Robin Marris, and the combination of investment and finance theory possible with various types of mathematical programming and cybernetic and behavioral theory models.

R-12 Rhodes, V. James, "The Role of Farming in Agricultural Production, Marketing, and Processing," Univ. Mo., Dept. Agr. Econ. Paper No. 1970-26, May 1970, 27 pp.

This paper describes the institutional form that agriculture is expected to take in the future. Entrepreneural control will be from those who provide the equity capital, implying that family farmers will lose control in agriculture. The alternative suggested is that farmers will move even more toward financial, production, and marketing contracts, corporate farming, and other means of obtaining capital and transferring risks, but will retain control in agriculture.

R-13 Roberts, P. T. and R. S. Smith, "Dairy Farm Purchase Contracts in New York State," Cornell Univ., Dept. Agr. Econ. A.E. Res. 128, Sept. 1963, 31 pp.

A field survey involving 36 farms purchased on contract and 16 of the sellers of these farms was conducted in 1962. Information is given concerning the characteristics of the buyers, sellers, and farms sold, as well as the contracts themselves. Performance and success of the farmers are determined and recommendations made for improved contracting arrangements.

R-14 Robinson, Denver D., Factors Affecting the Growth of Unit Test Demonstration Farms in Western North Carolina, unpublished M.S. thesis, N. C. State Univ., 1965.

R-15 Rodewald, Gordon E., Jr., "Resource Entrapment in Agriculture" in A New Look at Agricultural Finance Research, proceedings of a workshop, Agricultural Finance Research, Univ. Ill., Dept. Agr. Econ. Agr. Finance Program Rpt. No. 1, 1970, pp. 64-72. (Includes discussion of paper.)

Rodewald indicates resource entrapment exists when an investment once made cannot be recovered in its actual or expected value. Causes of entrapment include single-proprietorship farms, rapid adoption of technology, and specialized production. The paper and discussion suggest methods of disinvestment in agricultural resources and the economic welfare implications involved.

R-16 Rodewald, Gordon E., Jr., and C. B. Baker, "Economics of Investment in Cattle Feeding," Ill. Agr. Econ. 9(1), Jan. 1969, pp. 18-25; and

Rodewald, Gordon E., Economic Conditions Necessary for the Installation of Fixed Assets in Mechanized Cattle Feeding Systems, unpublished Ph.D. thesis, Univ. Ill., 1968, 214 pp.

These studies indicate the annual increment economically required for selected types and values of fixed assets on beef feeding farms. This is done by comparing investment cost with discounted returns over time, plus the present worth of the asset's salvage value. Budgets were constructed for three farm sizes, four levels of technology for each size, and five different feeding alternatives for each size. A further objective is the determination of the minimum addition to farm value if the farm operation was terminated prior to the end of the planning horizon. Theoretical concepts with regard to the acquisition of fixed assets are explained. Results indicate that, in most beef feeding situations, operators will not be able to pay for automated feeding equipment unless the cattle fed gain in grade during the feeding process.

R-17 Rodewald, Gordon E., Jr., Donald K. Larson, and D. C. Myrick, "Dryland Grain Farms in Montana: How They Started, Growth, and Control of Resources," Mont. State Univ., Agr. Exp. Sta. Bul. No. 579, July 1963, 47 pp.

Two hundred dryland farms surveyed in north-central and northeastern Montana are grouped by size, type, tenure of operator, and year started (1910-40, 1940-50, and 1950-60). For each group, present status is compared with beginning size, capital assets, and tenure. Then five common size groups of cash-grain farms are each budgeted as full owner, part owner, and full tenant to determine capital requirements, measure probable rates of capital accumulation, and determine debt repayment ability.

R-18 Rogers, Leroy F., "A Preliminary Investigation of the Influence of Age and Financial Structure Upon Transfer Strategies for Estate Management," paper presented at joint W-104 and GP-12 Committee meeting, Denver, Colo., June 1970, 21 pp.

Rogers summarizes an attempt at Washington State University to use simulation in determining estate settlement strategies. Strategies considered as to their effect on reducing gift and death taxes for an estate include (1) no transfer prior to death, (2) transfer of cash within limits established by annual and lifetime exclusions of the Federal gift tax, and (3) equating marginal rates of estate and gift taxation at the onset of estate planning and each subsequent year. Rogers stresses that the results are preliminary and that a more detailed conceptualization of the estate transfer process is needed.

R-19 Ross, William N., Empirical Relationship Between Tenure and Economic Growth of Farms in Central Kansas, 1940 to 1962, unpublished Ph.D. thesis, Kans. State Univ., 1970.

R-20 Roth, Herbert J., Analysis of the Land Contract: A Means of Financing the Transfer of Farm Real Estate Ownership, unpublished M.S. thesis, Ohio State Univ., 1964.

This study analyzes the financing of farm real estate ownership by means of land contracts. In comparing land contracts to other financing methods, principal conclusions are that (1) farms transferred under land contracts are of comparable equality, but of larger acreage, (2) the cost structure of the loan is different, and (3) no significant difference is found in the economic value received by the seller (or paid by the buyer).

R-21 Roy, Ewell Paul, Contract Farming, U.S.A., The Interstate Printers and Publishers, Inc., Danville, Ill., 1963, 572 pp.

Subjects of chapters in this book include the nature and extent of contract farming and vertical integration in the following commodities: broilers, eggs, turkeys, cattle, sheep, hogs, dairy, vegetables, fruits, and other farm enterprises and services. Other chapters are concerned with appraisal of contracts, cooperatives and integration, retail food stores and vertical integration, vertical integration and Government policy, and the future of contract farming and vertical integration. The appendix includes 22 sample contracts and agreements for various commodities and enterprises.

S-1 Saunders, Fred B., John A. Rhodes, James O. Wise, and S. J. Brannen, "Capital Requirements and Financing for Alternative Cattle Feeding Systems in Georgia," Univ. of Ga., Agr. Expt. Sta. Bul. N.S. No. 177, Dec. 1966, 53 pp.

The objectives of the study are to determine investment and operating capital requirements and evaluate methods of financing cattle feeding operations. Data were obtained from feedlot operators, 26 production credit associations, 15 Federal land banks, and 264 banks. Ten basic farm feeding systems are analyzed for each of three sizes--100, 500, and 1,000 head. Investment required for each of these systems (and also synthesized for 1,000-, 5,000-, and 10,000-head feedlots) is determined. Credit practices and methods of financing Georgia cattle feeders are presented.

S-2 Schaffner, L. W., Laurel D. Loftsgard, and Norman Dahl, "Integrating Irrigation with Dryland Farming," N. Dak. State Univ., Agr. Expt. Sta. Bul. No. 433, May 1961, 32 pp.

Objectives are to determine current irrigation use in North Dakota and whether irrigation can be profitably increased in use. Interviews with 64 farmers with livestock operations provided data for setting up a model farm to be optimized by linear programming for various capital and resource use assumptions. Recommendations for priorities of investments in fertilizer, livestock, and irrigation equipment are made for the model farm.

S-3 Schaffner, LeRoy W., Laurel D. Loftsgard, and Wayne W. Owens, "Economics of Leasing Farm Machinery and Buildings," N. Dak. State Univ., Agr. Expt. Sta. Bul. No. 450, Sept. 1964, 20 pp.

The authors discuss the leasing of machinery and buildings in North Dakota. They summarize the types and general provisions of typical leases, the advantages and disadvantages, and the economic considerations involved. They do not report definitive studies of leasing practices in the State, but it is evident that some dealers, at least, had been contacted to provide information for their publication. Hypothetical examples compare leasing with ownership and custom hiring.

S-4 Schlender, John R., An Information System for Financial Management of the Farm Business, unpublished Ph.D. thesis, Purdue Univ., Jan. 1970, 177 pp.; and

Schlender, John R., "An Information System for Financial Management of the Farm Business," Kans. State Ext. Serv., 1970, 32 pp.

Objectives for both references are to determine data needed for making farm financial management decisions, improve the Purdue Farm Account System to include this information, and demonstrate the data's usefulness. Theoretical concepts and a review of business methods of developing information for use in decisions are discussed. A financial management information system was devised, which consisted of some 15 forms for collection of data regarding the firm and 18 forms reporting pertinent information to be used by the firm in management. A complete explanation of the use and value of each of the reports is included. The proposed system is flexible as to the types of organizations of firms it can support, and is capable of processing farm accounts in varying degrees of detail.

S-5 Schlender, John R., "The Cash Flow Statement Used as a Management Tool," paper presented at the Kansas County Agent Training School, May 1970, 5 pp. (Author is at Kans. State Univ.)

Schlender briefly explains the use of actual and projected cash flow statements in farm business management. He suggests use of accurate cash flow records in determining financing requirements, controlling product and input flows, and planning investments. A monthly cash flow projection form listing farm receipts, expenses, and cash balances is included.

S-6 Schmidt, Darrel D., Growth of Gross Income of Agricultural Firms in North Central and South Central Kansas, unpublished M.S. thesis, Kans. State Univ., 1970, 50 pp.

This study sought to determine by multiple regression analysis the factors influencing growth in gross income of Kansas farms which are members of certain farm management associations. Five regression equations, each using gross income as a dependent variable, are estimated, using 1950-64 data. Results indicate significant factors include capital managed, working capital, livestock investment, and number of farm workers. In other comparisons, size of farm was found positively correlated with growth rate, although the degree of association was low.

S-7 Schneidau, R. E., "Contract Integration Into Agriculture," Purdue Univ., Dept. Agr. Econ. 70-17, 1970, 10 pp.

This paper discusses vertical integration in agriculture with emphasis on livestock. The factors underlying the desire by producers and marketing firms to contract are discussed. Schneidau draws on Harris and Massey's publication, "Vertical Coordination Via Contract Farming," to discuss general contract provisions in agriculture today. He points up the need for tightening the contract from the farmer's point of view and the need for more legal help.

S-8 Schneidau, R. E., "Live Hog Futures: An Alternative to Contract Marketing," Purdue Univ., Dept. Agr. Econ. 70-11, 1970, 6 pp.

Schneidau discusses the method by which hog futures may be used to hedge the price of hogs. He also briefly discusses the marketing contract alternative.

S-9 Scofield, William H. and George W. Coffman, "Corporations Having Agricultural Operations--A Preliminary Report," U.S. Dept. Agr., Agr. Econ. Rpt. No. 142, Aug. 1968, 23 pp.;

Coffman, George W. and William H. Scofield, "Corporations Having Agricultural Operations--Preliminary Report II," U.S. Dept. Agr., Agr. Econ. Rpt. No. 156, April 1969, 28 pp.; and

Coffman, George W., "Corporations With Farming Operations," U.S. Dept. Agr., Agr. Econ. Rpt. No. 209, June 1971, 44 pp.

These reports, the first comprising 22 States and the second comprising an additional 25 States, discuss a survey taken by USDA to determine the number, kinds, and general characteristics of corporations that were directly involved in the production of farm products in the United States. They indicate business interests other than farming, gross sales of crops and livestock produced, year of incorporation, and land tenure arrangements. Data are summarized by State, region, type of corporation, enterprise class, and tenure. The third report includes data from the first two, adds discussions of labor and management, reports on Hawaiian corporations, and gives results of a special California survey.

S-10 Scott, John T., Jr. and Franklin J. Reiss, "Farm Lease Theory and Changing Technology," Univ. of Ill., Dept. Agr. Econ. AE-4196, Oct. 1968, 10 pp.

The authors note that a change in technology has an effect on the relative shares of residual return to tenants and landlords. They discuss the theory of allocation of returns to production factors. They state that recent labor-reducing technology has given landlords a relatively better bargaining position than tenants. The switch from share to cash rent also indicates this. Statistics regarding the tenure of farm operators in Illinois during 1940-64 are presented. The authors suggest that the cost of new inputs which increase output should be shared as the increase in output is shared, and that when new inputs are substituted for existing ones, they should be paid for in the same way as existing inputs.

S-11 Smith, Allen G., Alternative Strategies for Financing Growth of a Grain Farm in Central Illinois, unpublished Ph.D. thesis, Univ. Ill., 1968; and

Smith, Allen G. and C. B. Baker, "Optimum Growth Plans for Grain Farms in Central Illinois Using Alternative Land Financing Strategies," Univ. Ill., Agr. Expt. Sta. Res. Rpt. AERR-96, Dec. 1968, 102 pp.

Both references develop a multiperiod linear programming model to determine the optimum combination of strategies over 21 years for financing growth of a grain farm. Variables include downpayment level, length of repayment terms, equal principal versus equal total payments, land purchase contracts versus farm mortgages versus selling grain at harvest, land appreciation level, alternative debt aversion assumptions, and different prices of grain.

S-12 Smith, Allen G. and C. B. Baker, "The Effect of Real Estate Debt Commitments on Nonreal Estate Credit and Liquidity of the Farm," Univ. Ill., Agr. Expt. Sta., Ill. Agr. Econ. 9 (1), Jan. 1969, pp. 1-6.

This article develops the concept of credit as a source of liquidity and points out that long-term debt may reduce the credit available for other uses to zero. Hence, borrowing costs should include a cost for loss of liquidity. Evidence supporting these concepts was obtained from a survey of banks and production credit associations and from the simulation of a hypothetical farm to analyze various land acquisition strategies. The authors indicate that land purchase contracts may result in a reduction in liquidity, so that short-term loans may be difficult to obtain.

S-13 Smith, Frank J. and Ken Cooper, The Financial Management of Agribusiness Firms, Univ. Minn., Agr. Ext. Serv. Spec. Rpt. No. 26, 1967, 211 pp.

This book emphasizes fundamental concepts of financial management and the development of tools useful in analyzing investment alternatives. The early chapters discuss sources and uses of funds and the balance sheet approach. Management of short-term funds, capital budgeting, and determining and minimizing the cost of capital are discussed at length. Chapter 6 discusses profit planning and develops techniques for sales volume forecasting, cost analysis, product mix selection, and profit budgeting. The management elements in financial analysis and control are discussed. A chapter is devoted to financial problems in the growing firm. Particular emphasis is given to the merger process and economic justification for growth. The book is plainly written, easily understood, and documented with sufficient examples to clarify the concepts discussed.

S-14 Smith, Robert S., "Incorporation of the Farm Business," Cornell Univ. Ext. Bull. No. 1016, revised Nov. 1965, 19 pp.

The authors discuss the advantages and disadvantages of farm corporations and misunderstandings about corporations. They review tax laws relative to corporations and describe five examples of farm corporations.

S-15 Smith, Robert S., "Insurance for the Farm Business," Cornell Univ. Ext. Bull. No. 1003, revised Apr. 1966, 30 pp.

This general information bulletin discusses the various types of insurance applicable to the farm business. These include property, motor vehicle, liability, health and accident, and crop insurance. Costs and coverages of typical policies for each of these types of insurance are given.

S-16 Smith, Robert S., "Tax Considerations in Buying or Selling a Farm," Cornell Univ., Dept. Agr. Econ. A.E. Ext. 391, Nov. 1965, 19 pp.

This extension publication discusses items to be considered by buyer and seller when a farm changes hands. Tax consequences of cash and installment purchases are presented. Postponing gain by reinvesting proceeds is discussed. Numerical examples of various alternatives for purchasing and selling are given.

S-17 Smith, Robert S., "Tax Problems in Transferring Farms," Cornell Univ., Dept. Agr. Econ. A.E. Ext. 272, Jan. 1964, 19 pp.

The author reviews New York laws regarding transfer of property before and after the death of the owner. The New York estate tax and Federal estate and gift taxes are discussed. Income tax considerations in farm transfers are also reviewed. Examples of calculation of estate and gift taxes are given.

S-18 Smith, Robert S. and George E. Monroe, "Year-End Farm Income Tax Management," Cornell Univ., Dept. Agr. Econ. A.E. Ext. 482, Dec. 1967, 15 pp.

This extension publication treats the management of farm income to reduce taxes. It discusses the type of records required for planning income receipt and for accurate tax reporting. A numerical example of year-end tax planning is given. Suggestions are made regarding rates and methods of depreciation, income averaging, and income estimation.

S-19 Snodgrass, Richard P., Cash Rental of Livestock Facilities on Crop-Share Leased Farms, unpublished M.S. thesis, Univ. Ill., Jan. 1963, 94 pp.

Budgeting analyses are used to determine whether it would be profitable for both the tenant and landlord if livestock facilities were provided by the landlord and rented by the tenant, and livestock added to the tenant-operated farm. Farms of four size groups (160-520 acres) in east-central Illinois were studied. Livestock enterprises include swine farrowing, long-fed steer calves, and short-fed yearling steers. Both tenant-erected facilities and various types of cash rents charged for landlord-erected facilities are studied. Results indicate that both the landlord and tenant could benefit by adding livestock for each of the farm sizes studied, under the conditions assumed for the study.

S-20 Staniforth, Sydney D., "Estate Management and Integration Transfer," in A New Look at Agricultural Finance Research, proceedings of a workshop, Univ. Ill., Dept. Agr. Econ. Agr. Finance Program Rpt. No. 1, 1970, pp. 55-63. (A discussion of the paper is included in the proceedings.)

Staniforth states that the magnitude of the total capital requirement for the commercial family farm and the exceedingly high cost of financially dismantling the firm are the major problems of intergeneration transfer. He discusses as solutions incorporation, land and machinery leasing, partnerships, low equity financing, vertical integration, and reexamining the laws. The discussion emphasizes the success of the corporation in resolving transfer problems.

S-21 Sullivan, Gene D. and Curby G. Stech, "Availability and Use of Credit on Small Commercial Farms in South Central Louisiana," La. State Univ. D.A.E. Res. Rpt. No. 386, Dec. 1968, 64 pp.

A sample of 102 low-income farmers in Louisiana were interviewed to determine the amount of credit used, the sources and importance of each source, the degree of knowledge farmers possess concerning existing credit sources, farmers' attitudes and experiences with credit, and the potential for borrowing additional capital as indicated by equity positions. Results indicate that many farmers lack information regarding sources of capital, interest rates, and efficient production practices. Information on credit policies of some local lending agencies is reported.

S-22 Sullivan, Gene D. and Robert E. Sweeney, "The Potential for Profitable Use of Capital on Louisiana Beef Cattle Farms," La. State Univ., Agr. Expt. Sta. D.A.E. Res. Rept. No. 349, Jan. 1966, 45 pp.

The objective of this study is to identify the production resources which add to gross income on Louisiana beef cattle farms and determine the potential for using additional capital to increase net incomes. Multiple regression techniques are used to analyze survey data in determining the significant variables contributing to gross income. It is concluded that additional capital could be profitably used on beef cattle farms in Louisiana. Investments in additional health care for livestock, labor, buildings, cattle, and feed are shown to yield high annual returns.

S-23 Sullivan, Richard, An Analysis of the Tax Reform Act of 1969 and the Elimination of Capital Gains on Investments in Beef Breeding Herds, unpublished M.S. thesis, Univ. Mo., June 1971.

The Hoy Carman model was modified and utilized in analyzing after-tax profits from a 6-year, 100-cow, beef breeding herd investment. Some 77 combinations of market prices and production costs were examined for seven different tax brackets for (1) farmers and (2) nonfarm investors under the Federal income tax rules existing before and after the Tax Reform Act of 1969. The results of hypothetical legislation in eliminating capital gains treatment of breeding stock was examined in the same manner. Results indicated that after-tax profits were reduced by one-third for nonfarm investors and by 10 to 30% for farmers as a result of the 1969 changes in tax law. The hypothesized elimination of capital gains reduced to near zero the after-tax profits of investors and substantially reduced after-tax profits of farmers.

S-24 Suter, Robert C. and Phillip J. Scaletta, "The Mysteries of the Farm Corporation," in Economic and Marketing Information for Indiana Farmers, Purdue Univ., Coop. Ext. Serv., Oct. 30, 1970, 7 pp.

The authors list the advantages, limitations, and the legal process of farm incorporation. Special emphasis is placed on income tax considerations and the form of the corporation (subchapter C versus subchapter S of the Federal tax law).

T-1 Taylor, Fred R. and Hilmer Huber, "Merchant-Dealer Credit in North Dakota, Part 1, Farmer Use and Importance," N. Dak. State Univ., Dept. Agr. Econ. Rpt. No. 62, Apr. 1969, 34 pp.; and

Huber, Hilmer, The Importance of Merchant and Dealer Credit in Financing Farm Production Expenses, M.S. thesis, N. Dak. State Univ., Oct. 1967.

In both references, 40 farmers from each of three North Dakota counties were interviewed and information obtained regarding their use of production credit from all sources. The main objective was to study merchant and dealer credit used. Use of credit was studied by county, size of farm, tenure of operator, age of operator, and major enterprise. Results indicate that use of merchant and dealer credit was somewhat affected by availability of sufficient production loans from banks and production credit associations.

T-2 Thomas, Kenneth H., "What Do You Do Different With 10% Money?" speech presented at Professional Farm Managers Meeting, Purdue Univ., Feb. 12, 1970, 13 pp. (The author is at Univ. Minn.)

The author discusses the reasons interest rates are high and proposes that they will decline as the rate of inflation is slowed. He indicates that interest rates alter the best investment strategy of farmers and suggests measures to adjust investment decisions to reflect higher rates. Altering financing arrangements and renting land and equipment are suggested measures to adjust to high interest rates.

T-3 Thomas, Kenneth H. and Harold R. Jensen, "Starting Farming in South Central Minnesota... Guidelines, Financial Rewards, Requirements," Univ. Minn., Agr. Expt. Sta. Bull. 499, 1969, 23 pp.; and

Thomas, Kenneth H., A Poly-Period Analysis of Selected Variables Upon the Growth Process of Beginning Farm Firms, South-Central Minnesota, unpublished Ph.D. thesis, Univ. Minn., 1968.

The major purpose of both references is to develop guidelines to help prospective farmers in Minnesota appraise opportunities in farming. Credit agency and farm management personnel were consulted for suggested approaches to beginning farming. Growth patterns are developed and projected for a 10-year period for excellent, good, and average levels of management. Budgeting and linear programming are used to analyze alternative situations.

T-4 Thompson, Clinton J., Land Contracts: Legal Provisions and Economic Analysis, unpublished M.S. thesis, Purdue Univ., 169 pp.

A legal-economic study of installment land contracts utilizes a literature review, a field study, and budgeting. Five payment plans over two periods of changing land values are compared. Provisions of interest to both buyer and seller are examined. Formulas are developed illustrating the trade-off levels between principal and interest payments (to buyers and sellers) and the tax offsets associated with each level.

T-5 Tongate, Ronald E., A Game Theoretic Approach to Farm Lease Determination, unpublished M.S. thesis, Univ. Ill., June 1966, 82 pp.

Tongate investigates the use of game theory to determine optimal lease choices for tenants and landlords. Lease types considered are crop-share, crop-share-cash, livestock-share, and cash leases. These lease types are considered for each of four game theoretic criteria: Wald, Savage, LaPlace, and Minimax. Data for the study came from 86 farms in east-central Illinois for a 13-year period--1950-62. Results of the game theoretic approaches are compared with the actual leasing practices of the 86 farms. Results suggest that mixed lease types may be appropriate for certain farm situations.

T-6 Top Farmers of America Association, Inc., "Capital Gains and Losses," 515 West Jackson St., Woodstock, Ill., 1969, 23 pp.

New tax rulings that became effective in 1969 are listed and how they affect farmers is described. Ten big mistakes in tax management often made by farmers are briefly discussed. The main emphasis is on the handling of capital gains and losses as they affect machinery and equipment, livestock, and real estate.

T-7 Trevena, Billy J. and Luther H. Keller, "Leases and Sale Transfers of Cotton Allotments in Tennessee," Univ. Tenn., Agr. Expt. Sta. Bull. No. 468, Feb. 1970, 32 pp.

The provisions which allow for the transfer by sale or lease of cotton allotments and the extent to which allotments changed hands in 1966 and 1967 in Tennessee are explained. In 1966, 262 farmers were interviewed to provide data for a comparison of characteristics of farms which relinquished allotments with those which obtained allotments. Economic incentives for allotment transfers and the prices of allotments leased and sold are given.

T-8 Tsai, Joyce M., Leasing as an Alternative Strategy to Finance the Growth of Cash Grain Farms, unpublished M.S. thesis, Univ. Ill., 1969.

U-1 Umberger, Dwaine E., Norman K. Whittlesey, and M. E. Wirth, "Financial Structure of Large Farms in the Wheat-Pea Area of Washington," to be published by Wash. State Expt. Sta., 1971, about 54 pp. (draft copy).

Financial and farm management data are obtained, summarized, and analyzed for 43 full-time farmers in Washington in 1967. Financial management practices (notably tenure, debt-asset structure, and size) are related to the growth of firms since 1955. The current structure of large farm firms is described and suggestions are made as to their growth potential.

U-2 University of California, "Estate Planning for Farmers," Calif. Agr. Expt. Sta. Cir. 461, revised May 1968, 35 pp.

This publication discusses the methods of owning property and its disposition at the death of the owner. It lists methods of reducing death and estate transfer taxes and suggests means of transferring property before death. Emphasis is placed on California law with regard to these concepts.

U-3 University of Illinois, compiler, Proceedings of Agribusiness-Financing Sessions--Tenth Annual Agricultural Industries Forum, AE-4190, Feb. 1968, 28 pp.

This publication gives the texts of eight papers presented with the theme of providing agricultural credit in the 1970's. Titles and authors are as follows:

"Farmers of the 1970's and Beyond," Everett, Bernard A.

"Getting Information To Solve Credit Problems," Thomson, James C.

"Who Will Provide the Credit?" Hauenstein, B. L.

"The Role of the Dealer or Supplier in Providing Credit for the Farmer of 1970's," Stein, D. J.

"The Role of the Agricultural Bank in Financing the Farmer of the 1970's," Rochford, T. M.

"Budgets and Cash Flows as Financial Management Tools," Holcomb, J. M.

"Records as Financial Management Tools," Meharry, George

"Financial Management: Principles of Economics," Baker, C. B.

U-4 U.S. Dept. of Agriculture, Economic Research Service, Farm Production Economics Division, Farm Corporations and Their Income Tax Treatment, proceedings of a 2-day seminar, Interpreting Income Tax Regulations for Research on Farm Corporations, held Nov. 1969 at Washington, D. C., Mar. 1970, 276 pp.

Five major papers and the highlights of discussion on each are included in this proceedings. Charles Davenport considers tax accounting methods allowable for farmers and the likely impact of changes in accounting rules. Donald Levi explains subchapter C corporations and their adaptability to farm businesses. He points out advantages and problems encountered in attempting to minimize income tax costs. Neil Harl analyzes subchapter S corporations and itemizes the complexities involved. John O'Byrne and G. John Marmet tackle the questions of mergers, consolidations, and multiple corporations as related to farming. Neil Harl, in a second paper, examines employee benefits that are possible under corporate forms of business organization.

V-1 VanArsdall, Roy N. and William A. Elder, "Economies of Size of Illinois Cash-Grain and Hog Farms," Univ. Ill., Agr. Expt. Sta. Bull. 733, Feb. 1969, 68 pp.

The authors use linear programming to establish optimal organizations for hypothetical hog and cash grain farms in Illinois with one to six regular workers and appropriate sizes of field machinery. Shortrun cost curves are obtained for each of these operation sizes and longrun cost curves are derived from the shortrun curves. The size, enterprise organization, and resource use of typical farms in Illinois to achieve the most efficient use of resources is thus determined. The effect of land price, participation in feed grain and wheat programs, and maximizing profit versus minimizing costs are also studied.

V-2 Vandeputte, Joseph M., Alternative Terms of Farm Mortgage Loans in Financing a Dairy Farm, unpublished M.S. thesis, Univ. Ill., 1966, 66 pp.

Vandeputte uses a single-year linear programming model to determine the influence of various lengths of real estate loan terms on the short-term credit reserve for a hypothetical Illinois dairy farm. The influence of three feeding systems and two product price levels on the success of the firm are also tested. The objective function used is the maximization of profits above consumption. Results indicate that a "flexible" repayment term for real estate loans gives the farmer an opportunity for both a more liberal credit reserve and an interest saving.

V-3 Vandeputte, Joseph M., Financing Low Equity Dairy Farms: An Application of Multiperiod Linear Programming Methods, unpublished Ph.D. thesis, Univ. Ill., 1968, 125 pp.

Vandeputte uses a multiperiod linear programming model to deduce quantitative information concerning alternative financial conditions and consumption levels for a dairy farmer. Conditions tested are length of real estate amortization period, minimum equity requirements for real estate loans, land appreciation rates, nonreal estate credit possibilities, and consumption levels. 13 lenders were surveyed and their short-term loan policies for farms with various long-term loan commitments are reported.

V-4 Van Hoozer, Gary M., The Relationship of Agricultural Credit and Other Selected Factors to Growth and Capital Accumulation in the Family Farm Firm, unpublished M.S. thesis, Purdue Univ., Jan. 1970.

Records of 101 farm operators in two west-central Indiana counties for 1959-67 are used to estimate the relationship of credit, leverage, liquidity, nonfarm income, age level, and landownership to growth of the firm in net worth. Tabular analysis and multiple regression techniques are used to test hypotheses concerning the above variables. Results indicate that growth was positively related to initial net worth and negatively related to financial leverage (percentage of debt), nonfarm income, and age level.

V-5 Vieth, Gary R. and A. W. Epp, "The Effects of Selected Federal Income Tax Regulations on After Tax Net Income from Farming and Ranching", Univ. Nebr., Dept. Agr. Econ. Rpt. No. 54, Oct. 1969, 19 pp.; and

Vieth, Gary R., The Effects of Some Federal Income Tax Regulations on After Tax Net Income from Farming and Ranching, unpublished M.S. thesis, Univ. of Nebraska, 1969.

Both references indicate the extent to which capital gains and section 1231 provisions benefit operators of different size farms and ranches and discuss the benefits to investors in ranching who have high nonranch income. Alternative tax provisions are compared for four farm and ranch situations. Strategies to reduce taxes are discussed. The study does not incorporate changes in the Tax Reform Act of 1969.

V-6 Vincent, Warren H., "Methods and Models in Managerial Economics: A Bibliography," Mich. State Univ. Agr. Econ. Rpt. No. 108, July 1968, 25 pp.

The vocabulary and method of managerial economics is found in most of the social science fields and the author has gone beyond his background interest in farm management in presenting this bibliography. Though the 355 references are not annotated, a topic index is provided which groups the contents into subject matter areas. Of interest in the field of farm financial management are the following topics and numbers of separate references for each: decisionmaking (31), farm management (11), farm growth (8), flow of funds (1), management decisions (29), planning (10), and risk and uncertainty (19).

W-1 Walker, Odell L., "Simulated Growth Models of Oklahoma Agriculture Firms," paper presented at W-104 and GP-12 Committee meeting, Denver, Colo., June 1970, 40 pp.

In describing research underway at Oklahoma State Univ., the author summarizes two doctoral dissertations which used the simulation technique in studying firm growth. The works summarized are by Flaskerud and Hall, both annotated in this bibliography.

W-2 Walker, Odell L. and James R. Martin, "Firm Growth Research Opportunities and Techniques," Jour. Farm Econ. 48(5), Dec. 1966, pp. 1522-1535. (A discussion of the article also appears in the journal.)

The authors discuss the research gap existing in the study of farm growth and adjustment and suggest that growth studies should do a better job of dealing with finance, managerial capacity, imperfect knowledge, time, and metabolism of the firm. The advantages and shortcomings of dynamic linear programming and simulation as research tools are discussed. George D. Irwin, in discussing the paper, suggests additional research on exit of firms and externalities affecting growing firms, and proposes additional uses of programming and simulation in growth research.

W-3 Walrath, Arthur J. and W. L. Gibson, Jr., "The Evaluation of Investment Opportunities--Tools for Decisionmaking in Farming and Other Businesses," U.S. Dept. Agr., Agr. Handb. No. 349, Feb. 1968, 58 pp.

This handbook discusses the basic principles involving the calculation of present values for use in investment decisions. The effects of interest rate, time, and diverse periods on present and future values are discussed. Seven examples of the use of the present-value and annuity concepts for typical farm decisions are presented. The appendix contains present and future value tables.

W-4 Watzek, John A., "Factors Related to Success or Failure in Getting Started Farming," in Economic and Marketing Information for Indiana Farmers, Purdue Univ. Ext. Serv., Mar. 31, 1970, 3 pp.; and

Watzek, John A., Factors Related to Success or Failure in Getting Started Farming, unpublished M.S. thesis, Purdue Univ., Jan. 1970, 114 pp.

Thirty young men in Clinton County, Ind., who started farming between 1964 and 1967 were interviewed to determine the influence on success in starting farming of the following factors: Education and experience, ability to save and invest, choice of enterprises, size of farm, debt-to-equity ratio, amount of family assistance, soil productivity, and time of starting. Net worth provided the general measure of success in the comparisons made. Results indicate that 24 men had substantial family assistance, that locating land for rent and purchase was a serious problem, and that part-time farmers made the least progress. Fourteen men, including two without family assistance, started farming with less than $4,000 of their own capital. Characteristics of the farms are described in the thesis.

W-5 Wehrly, J. S. and J. H. Atkinson, "Debt Load Capacity of Farms," Purdue Univ. Res. Bull. No. 780, June 1964, 19 pp.

This study determines the effects on farmer's debt servicing ability of interest rates, lengths of repayment term, price and yield variations, managerial ability, and consumption level. Regression equations are used to estimate income, operating expenses, capital maintenance funds, and consumption. These equations are then used to determine funds available over a 10-year period for servicing debt for various levels of the above variables. Data from 49 Indiana hog and dairy-hog farms and 19 Illinois farms are used to estimate the coefficients of the equation.

W-6 Weigle, Richard N., The Economics of the Family Farm Corporation in Indiana, unpublished Ph.D. thesis, Purdue Univ., Aug. 1967.

This study examines the corporate form of business organization and its adaptability to Indiana family farms. Farm corporations were surveyed by mail questionnaire; six are studied in detail. Ten different forms of corporate organization and partnership are superimposed on a farm business organized as a sole proprietorship. These are then compared as to the incidence of taxes, transfer costs, and impact on the farm family. A conclusion is that no general prescription can be written for incorporating farms in Indiana; rather, each case must be considered individually.

W-7 Western Agricultural Economics Research Council, Research Into Economic Growth of the Farm Firm, conference proceedings of Farm Mgt. Res. Comm., Rpt. No. 6, Nov. 1965, 114 pp. (Albert N. Halter, Oreg. State Univ., chairman.)

This proceedings on the subject of growth of the farm firm includes the following papers:

"Toward a Growth Theory of the Farm Firm," R. R. Robinson.

"Agrarianism, Social Organization, and Change," Wayne C. Rohrer.

"AGRINDUS Management Research," Ronald O. Aines.

"Necessary Conditions for Growth of the Farm Business Firm," Warren R. Bailey.

"Financial Aspects of Growth of the Farm Firm," Aaron G. Nelson.

"Growth of Farms and Optimal Rates of Out Migration from Farm to Nonfarm Communities," Rex D. Rehnberg.

"Scale and Size Relationships of the Farm Firm," Lynn H. Davis.

"Technological Progress in Relation to Growth of the Farm Firm," Ludwig Auer.

"Technological Change and Growth in Size of Farms Past and Future," Norman K. Whittlesey and Walter R. Butcher.

"Simulation as a Means of Studying Growth," A. N. Halter.

"Operational Gaming and Simulation as Research and Education Tools in the Great Plains," Odell L. Walker and Wayman A. Halbrook.

W-8 Wirak, Owen S., "The Firm, Its Objectives and Financial Management," Wash. State Univ., Dept. Agr. Econ., no date, 17 pages.

This paper, oriented toward agribusiness firms but applicable to farm firms, deals with the finance functions of raising capital and decisionmaking among alternatives. After briefly considering the payback period and the simple rate of return as approaches to judging the economic desirability of an investment, he recommends and discusses at length the present value of net cash flow method for financial decisionmaking.

W-9 Wirth, M. E. and Edmund T. Hamlin, "Financial Progress and the Use of Credit on Michigan Farms," Agr. Finance Rev., Vol. 24, June 1963, pp. 18-25.

Personal interviews were conducted in 1954 and 1958 on 108 farms of four types in Michigan (see Hamlin, Wirth, and Neilson). For this paper, these farms were divided into groups based on size and then redivided based on rate of increase in assets. The effect of credit use on size and change in net worth is presented. Results indicated that the more successful farmers used credit to a larger extent than other farmers.

W-10 Woods, W. Fred, "The Tax Reform Act and Farmers," Agr. Finance Rev., Vol. 31, June 1970, pp. 1-10; and

Woods, W. Fred, "The Tax Reform Act of 1969--Provisions of Significance to Farmers," U.S. Dept. Agr. ERS-441, Apr. 1970, 17 pp.

These publications review changes in Federal income tax laws contained in the 1969 Tax Reform Act. They also provide background information relative to the issues associated with these changes. Tax law changes reviewed include those relating directly to the farming sector as well as reform and relief measures affecting farmers and other taxpayers.

Y-1 Yeary, Edward A. and George V. Ferry, "Alternatives for Small Tract Owners, West Side of the San Joaquin Valley," Univ. Calif., Agr. Ext. Serv. MA-9, Mar. 1969, 8 pp.

The authors discuss the alternatives available for farmers owning less than 160 acres of land in the western San Joaquin Valley in view of additional water soon to become available. Alternatives include take no action, sell the property, farm it as an owner-operator, enlarge the tract by purchasing or leasing more land, lease out the land, and subdivide for commercial purposes. Estimated costs of each action are listed.

B-1 Baker, C. B., "Economic Growth of the Agricultural Firm," Univ. Ill.

Objectives are to select optimal growth patterns, using various decision criteria and resource, financial, and personal situations. The effects on growth of internal and external control of capital funds will also be sought. The approach is multiperiod linear programming of typical farm situations. Some results have been obtained (see Peter J. Barry's Ph.D. thesis). The project is a continuing one which attacks timely financial problems.

B-2 Barry, Peter J., and G. J. Bradshaw, "Investment and Financing Strategies: Implications for Growth of Cash Grain Farms in Ontario," Ontario Agr. Coll., Guelph.

Objectives are to investigate the influence on a farmer's financial position of farm expansion through investment in land versus investment in cattle feeding facilities. Special emphasis is placed on indivisibility of assets and financial constraints. Research techniques include budgeting and multiperiod linear programming, with data provided by farm account records and lending institutions. The project was scheduled for completion in June 1971.

B-3 Bell, Sidney C., James E. Epperson, John C. Gamble, and Joong-Sik Kim, "An Analysis of Agricultural Credit in Alabama," Auburn Univ.

Objectives are to analyze current lending practices of selected Alabama institutions, determine how beginning farmers are financing their farms, develop guidelines to assist low-equity farmers finance a farm, and determine the effect of credit on potential income of farmers. Case studies of credit institutions and beginning and established farmers provided data for three publications now in print. The project was to end in June 1971.

B-4 Boehlje, Michael D. See Eidman, Boehlje, Wegenhoft, and Jose.

B-5 Boehlje, Michael D. and Vernon R. Eidman, "The Capital Market for Farm Firms: Adequacy, Institutional Changes, and Firm (Borrower and Lender) Financial Management," Okla. State Univ.

Objectives are to study the use of debt versus equity capital in agricultural production in the Great Plains, evaluate the impact of firm structure on the future structure of the agricultural capital market, and determine the resulting total supply of capital available to various sizes of farms. Statistical procedures will be used for the aggregate estimates and simulation or mathematical programming will be used in the microanalysis. The project is up for approval at present and is expected to last 5 years. Preliminary results on merchant and dealer credit may be available by the end of 1971.

B-6 Bostwick, Don. See Schultz, Grigsby, Lahren, Bostwick, and Rodewald.

B-7 Bradshaw, G. J. See Barry and Bradshaw.

B-8 Bratton, C. A., "Factors Affecting Incomes on New York Dairy Farms," Cornell Univ.

Objectives are to provide up-to-date data on financial situations of a cross-section of dairy farms and study the changes in the factors affecting income. The study is a continuing one which utilizes about 500 farm business records in cross tabulations and regression analysis. The results show changes over time in the financial aspects of dairy farm businesses and are published annually.

B-9 Brodnax, Henry D. and B. R. Eddleman, "An Economic Appraisal of the Development, Operation, and Financial Management of Beef Cattle Ranches in the Gulf Coast Area of Central Florida," ERS and Univ. Fla.

Objectives are to determine present allocation of resources on beef ranches, develop enterprise budgets for various management levels, determine seasonal price variation for classes of beef cattle, and determine the effect of various tenure, financial, and tax management strategies on the organization and growth of beef cattle farms in central Florida. Research tools are linear programming and simulation. An interview survey will include beef producers, livestock and crop specialists, and marketing firms. Completion of the project is expected in December 1971.

B-10 Bugliari, Joseph B. See Smith, Bugliari, and Voss.

B-11 Buller, Orlan, "Growth of Farm Firms and Their Adaptation to Risk and Uncertainty in the Great Plains," Kans. State Univ.

Objectives are to evaluate the influence of resource adjustments and other factors and strategies on the growth of Great Plains farm firms, and to estimate optimum growth patterns for various growth strategies and resources available. Regression analysis was used to evaluate productivity of resources. A multiperiod linear programming model was used to study optimal growth strategies and the influence of expectations on income. Some results have been and are being published.

B-12 Burt, Oscar, Steve Stauber, and Donald K. Larson, "Farm Firm Growth," Mont. State Univ. and ERS.

Objectives are to focus upon the uncertainty aspect of agricultural production in a semiarid region and to formulate a dynamic programming model to study firm growth. Parameters, including bankruptcy, borrowing, and consuming thresholds, will be varied and optimal decision rules sought. Data regarding yield variability have been collected and analyzed. The completion date of the study is unknown.

C-1 Calub, Laura. See Nott and Calub.

C-2 Carson, Edward E., Purdue Univ.

A computer program is being developed which does the budgeting in comparing alternative farm plans. The primary objective of this program is to provide a tool for extension education work. A year-by-year budget procedure using a computer for calculating individual plans is also in process. A publication reporting these efforts is planned in 1971.

C-3 Cheney, P. See Kottke and Cheney.

C-4 Corty, Floyd L., "The Economics of Leasing or Custom Hiring Farm Equipment on Louisiana Cotton Farms," La. State Univ.

Objectives are to compare and evaluate the cost of ownership, custom hiring, and leasing of expensive farm machinery used in cotton production; and to consider the feasibility of providing a custom hiring and equipment leasing service for farmers. Analysis of interviews with a sample of 80 farmers and all the cotton picker dealers in Louisiana will provide the approach to the study. Early results indicate that custom hiring of cotton pickers is common and economically attractive, while leasing services are not generally available to farmers in the study areas. Break-even acreages have been derived for various yields and types of pickers.

C-5 Cox, Rex W. See Taylor and Cox.

D-1 Davis, Lynn H., "Economic Growth of the Agricultural Firm," Utah State Univ.

Objectives are to identify and analyze financial management problems encountered by firms in process of growth and to select optimal growth patterns using various decision criteria under different resource, financial, and personal situations. Successful farm operators will be interviewed to determine financing and production methods. Linear programming will be used to analyze various means of controlling resources.

E-1 Eddleman, B. R. See Brodnax and Eddleman.

E-2 Eidman, Vernon R. See Boehlje and Eidman.

E-3 Eidman, Vernon R., Michael D. Boehlje, Kenneth Wegenhoft, and Douglas Jose, "An Analysis of the Impact of Financial and Production Strategies on the Growth of Oklahoma Farms and Ranches," Okla. State Univ.

Objectives are to develop information on costs, returns, and variability of major crop and livestock enterprises; to determine goals and their importance in decisions; to analyze financial and production strategies for growth; and to evaluate the potential of firm growth on numbers of farms and required inputs. Data will be obtained by personal interviews of farmers and strategies will be evaluated by simulation procedures. The project is just beginning and is expected to be completed in 1976.

E-4 Eidman, Vernon R., Roy E. Hatch, and Wyatte L. Harman, "An Economic Analysis of the Growth and Survival Goals and Strategies of Farm Firms in the Southern Great Plains," Okla. State Univ. and ERS.

In view of the area's receding ground water supply, objectives are to determine the goals and associated management strategies of farm operators, project the effect on input use of structural changes associated with dryland and irrigated farms, and develop alternative growth paths. Farm surveys will be conducted to identify prevalent goals and simulation procedures will be used to project structural changes. Completion date for the project is December 1973.

E-5 Epp, A. W. See Hassler, Helmers, Epp, and Lagrone.

E-6 Epperson, James E. See Bell, Epperson, Gamble, and Kim.

G-1 Gamble, John C. See Bell, Epperson, Gamble, and Kim.

G-2 Golden, Willie I. and H. C. Spurlock, Clemson Univ.

A project on financing for young farmers was expected to begin in July 1971.

G-3 Griffith, Jimmy C. See Wiegmann and Griffith.

G-4 Grigsby, Thomas. See Schultz, Grigsby, Lahren, Bostwick, and Rodewald.

H-1 Harman, Wyatte L. See Eidman, Hatch, and Harman.

H-2 Harrison, Virden L., ERS.

Objectives are to gather information from institutions and researchers on current and past work in the area of farm financial management. This information will be used to determine further research needs in farm financial management or point out areas in which duplication of effort exists. Also, a manuscript under review (1) discusses the attributes of livestock which contribute to firm growth, (2) suggests a decision process to be used in choosing among livestock enterprises, and (3) suggests a technique for including livestock in a growing firm which includes as alternatives land purchase and rent. See also Woods and Harrison.

H-3 Harshbarger, C. Edward, Federal Reserve Bank of Kansas City.

A project regarding intergeneration transfer of the farm firm is underway. The project will seek to point out economic issues and implications of these issues to farmers, bankers, and others. An article is expected in late 1971.

H-4 Hassler, James B., Glenn A. Helmers, A. W. Epp, and William F. Lagrone, "An Economic Analysis of the Growth of Nebraska Farm and Ranch Firms," Univ. Nebr. and ERS.

Objectives are to analyze the effects of risk and uncertainty, size economies, tenure, specialization, and flexibility on the growth of the firm. Farmers have been surveyed and a recursive multiperiod linear programming model has been developed to accomplish the objectives. Some results will be available in thesis or published form in 1971.

H-5 Hatch, Roy E. See Eidman, Hatch, and Harman.

H-6 Helmers, Glenn A. See Hassler, Helmers, Epp, and Lagrone.

H-7 Herr, William McD., "Financial Characteristics Affecting the Growth of the Farm Firm," Southern Ill. Univ.

Objectives are to determine the effects of equity, consumption, rate earned on investment, taxes, and cost of funds on the rate of growth of the farm firm. Simulation or linear programming will be used for analysis, as well as case studies of typical sizes and kinds of farms. The project is a continuing one and will not necessarily end when individual reports are completed.

H-8 Hinman, Herbert R. and Robert S. Smith, "Financing Alternative Methods of Acquisition of Farm Machine Services in the Northeast," ERS and Cornell Univ.

Objectives are to determine current methods of acquiring machine services and investigate the advantages of leasing versus buying for firms faced with various tax obligations and investment opportunities. The aggregate implications of new patterns of resource financing will also be sought. Surveys of farm operators and machine suppliers provide data for the study. Comparisons of leasing versus buying will be made by the discounted cash flow approach. The study is expected to be completed in 1971.

H-9 Hopkin, John A., Tex. A & M Univ.

A study is being developed to determine how farmers build and allocate credit. The extent to which farmers use credit for productive purposes and how they handle estate planning and other legal problems will also be studied.

H-10 Hottel, James B.,"An Analysis of the Financial Management Practices and Financial Structure of Rice Producers in the Coastal Prairie of Texas," Tex. A & M Univ. and ERS.

Objectives are to identify and analyze financial aspects of rice production in Texas including acquisition, control, resource ownership and use, and financial arrangements. Indications of future capital and financing problems and adjustments are sought. Data from rice farms, financial institutions, and input-output data from previous research will be used. Models will be developed to simulate the structure and institutional relationship between capital suppliers, resource owners, and producers. A Ph.D. thesis incorporating this study will be completed during 1972.

H-11 Humberd, D. Raymond. See Justus and Humberd.

I-1 Irwin, George D., "Financing the Acquisition of Machine Services for Farm Production in the Midwest," Purdue Univ. and ERS.

Objectives are to identify current practices in acquisition of machine services; determine the reasons for the practices; ascertain costs, returns, and tax implications of various practices; and project implications for the future structure of the machinery dealers, and develop a budgeting, programming, or simulation model to evaluate various alternative machine acquisition strategies. Work will likely proceed through 1971; some results will be available in early 1972.

J-1 Jerke, Robert. See Johnson, Schaffner, Vreugdenhil, and Jerke.

J-2 Johns, Dick. See Wirth, Whittlesey, Rogers, Simunek, Johns, and Umberger.

J-3 Johnson, Jerome E., "Service Activities Relating to Ownership, Markets, and Use of Farmland," N. Dak. State Univ.

Objectives are to determine past trends and current levels of land values, identify factors related to changes in land values and tenure patterns, and study the establishment and transfer of farm units. Mail surveys and research of secondary data provide the main data source, using case studies as the main method of analysis. The project will end in mid-1972.

J-4 Johnson, Jerome E., Leroy Schaffner, Harvey Vreugdenhil, and Robert Jerke, "Economics of Farm and Ranch Growth," N. Dak. State Univ.

Objectives are to identify processes for getting started in farming and strategies for survival and growth. Effects of alternative tenure arrangements and capital acquisition strategies will also be sought. Case studies of individual North Dakota farms will provide data on getting started in farming, while farmer interviews and regression analyses will determine factors affecting survival and growth. Some interviews have already been taken and a phase was to be completed in summer 1971, although the project will continue for several years.

J-5 Johnson, R. Bruce, La. State Univ.

Research is being initiated in the general subject of rural development. Initial studies will focus on financial problems of low-income farmers and low-income rural residents.

J-6 Johnston, Richard S., "Firm Growth and the Structure of Agricultural Industries," Oreg. State Univ.

Objectives are to identify factors important in determining how and why firms change size and to relate the growth of the firm to structural changes in agriculture-based industries. Methods of analysis are mathematical model-building, Markov chains, linear programming, and regression analysis. Internal Revenue Service provided the data. The project is completed and a manuscript is in process.

J-7 Jose, Douglas. See Eidman, Boehlje, Wegenhoft, and Jose.

J-8 Justus, Fred R. and D. Raymond Humberd, "Financing the Growth and Organizational Adjustments of Kentucky Farms," Univ. Ky.

Work is continuing in the same vein as reported in Humberd's Ph.D. thesis (annotated in this bibliography). The project is scheduled to end in July 1972, but may be extended.

K-1 Kim, Joong-Sik. See Bell, Epperson, Gamble, and Kim.

K-2 Kottke, Marvin W. and K. S. Ling, "Firm Growth and Aggregate Investment," Univ. Conn.

Objectives are to develop a firm growth model, test alternative investment strategies, and to estimate and project aggregate farm investment potentials. A model based on control theory will be developed and empirical analysis may use dynamic programming. Representative farm data will be used for firm analysis and secondary data will be used for aggregate analysis. The project is in the planning stage, with completion expected in June 1972.

K-3 Kottke, Marvin W. and P. Cheney, "Simulation of Firm Growth," Univ. Conn.

The objective is to test the effects of various investment decision criteria and financial policies on rates of firm growth. The simulation technique maximizing net worth over time and using a random number generator to simulate variable prices and yields will be used. Data will be obtained from representative farms. A thesis incorporating the results is expected in June 1972.

L-1 Lagrone, William F. See Hassler, Helmers, Epp, and Lagrone.

L-2 Lahren, S. L. See Schultz, Grigsby, Lahren, Bostwick, and Rodewald.

L-3 Lard, Curtis F. See Moore, Lard, and Martin.

L-4 Larson, Donald K. See Burt, Stauber, and Larson.

L-5 Ling, K. S. See Kottke and Ling.

M-1 Martin, James R., "Financial Management Practices of Large-Scale Commercial Feedlot Operations," ERS and Texas A & M Univ.

Large-scale beef feedlot operators in Texas were interviewed and descriptive data from them summarized. The analytical phase of the study began in early 1971. Detailed information from 220 banks concerning lending to feedlot operations was collected by the Federal Reserve Bank of Dallas. This information includes general agricultural and livestock feeding loan policies, as well as type of borrower, borrower's net worth, amount of loan, margin requirement, interest rates, and compensatory balance for individual borrowers. See also Moore, Lard, and Martin.

M-2 Moore, Donald S., Curtis F. Lard, and James R. Martin, "Economic Growth of the Agricultural Firm," Tex. A & M Univ. and ERS.

Objectives are to identify and analyze management problems by firms in the growth process, determine effects of internal and external control of funds, study effects of risk and uncertainty, and select optimal growth patterns for various decision criteria and resource situations. Multiperiod growth models are being used and data from surveys and interviews were collected. Some results have been generated to date. The completion date for the project is June 1973.

N-1 Nott, Sherril B., and Laura Calub, "Financing of Productive Services," Univ. N. H.

Objectives are to determine the sources of capital used by dairy farmers who use the ELFAC accounting system, determine if the sources of capital used by dairymen in Maine, New Hampshire, and Vermont differ from the country as a whole and from each other, and determine if an extension program is needed and what form it should take. Data from accounts kept by farmers will be analyzed by multiple regression and analysis of variance methods. An M.S. thesis is expected in January 1972.

R-1 Redman, John C., "Financial Management on Kentucky Farms," Univ. Ky.

Objectives are to study the capital accumulation process of Kentucky farm units and appraise the role of owned capital and credit in farm adjustments. Analysis of secondary data and farm surveys will provide the information desired. Manuscripts are being prepared relating to asset management, management of cash flow, and integration of short- and long-term budgeting and financing.

R-2 Rodewald, Gordon E., Jr. See Schultz, Grigsby, Lahren, Bostwick, and Rodewald.

R-3 Rodewald, Gordon E., Jr., M. E. Wirth, and Leroy F. Rogers, "Adjustments Expected in Pacific Northwest Agriculture," Wash. State Univ. and ERS.

The objective is to develop intelligence on the current situation (and reasons therefor) in the Pacific Northwest with respect to financial management practices of farmers and existing patterns of ownership, use, and intermediation of services of land, labor, machinery, and livestock resources. Information on pressures for institutional adjustments, adjustment opportunities, and problems faced by human resources in the farm sector will be sought. Linear programming and regression analysis will be used with data from surveys and secondary sources. The project is just beginning and is expected to last 3 years.

R-4 Rogers, Leroy F. See Rodewald, Wirth, and Rogers.

R-5 Rogers, Leroy F. See Wirth, Whittlesey, Rogers, Simunek, Johns, and Umberger.

R-6 Rogers, Leroy F. and Richard Simunek, "Intergeneration Transfers of Farm Estates," Wash. State Univ.

Objectives are to determine the influence of age, liquidity, and transfer strategy upon costs of transferring estates. Simulation is the tool for analysis. Some preliminary results are available (see Rogers, Leroy F. in the publications and manuscripts section of this bibliography); the project is scheduled for completion in January 1972, with a station bulletin planned.

S-1 Schaffner, Leroy. See Johnson, Schaffner, Vreugdenhil, and Jerke.

S-2 Schlender, John R., Kans. State Univ.

Schlender is chairman of a committee to develop a financial management publication to be used in the Kansas State financial management extension program. It includes the development of cash flows and income statements, credit sources, and efficient uses of capital. Summer 1971 was the expected completion date.

S-3 Schneeberger, Kenneth C., Univ. Mo.

A model has been developed to evaluate alternative growth and investment strategies for irrigation in Missouri. Some results have been obtained to date and further investigation is continuing (Schneeberger, Kenneth C., "The Dollars and Sense of Irrigating 100 Acres," in Third Ann. Irrig. Conf. Proc ., Univ. Mo., Feb. 1971, 8 pp.)

S-4 Schultz, John L., Thomas Grigsby, S. L. Lahren, Don Bostwick, and Gordon E. Rodewald, Jr., "Socio-Cultural Factors in Financial Management Strategies of Western Livestock Producers," Oreg. State Univ. and ERS.

Objectives are to determine goals, objectives, and attitudes of livestock producers and to examine their relationships to financial management decisions. Data were obtained through survey and participant observation techniques employed in sample populations of Indian and "Euroamerican" ranchers in Oregon and south-central Washington. Analysis of data is in process. Results to date are on file as ERS-USDA progress reports. The pilot project was completed in May and a final report was to be given to ERS by September 1971. A monograph and several articles are anticipated.

S-5 Shaudys, E. T. and John Sitterley, "Implementation of Structural Related Changes in the Operational Farm Firm," Ohio State Univ.

The objective is to ascertain how farmers are acquiring land and other capital resources needed to utilize available technologies efficiently. Some field information has been gathered. Publication is expected in early 1973.

S-6 Simunek, Richard. See Rogers and Simunek.

S-7 Simunek, Richard. See Wirth, Whittlesey, Rogers, Simunek, Johns, and Umberger.

S-8 Sitterley, John. See Shaudys and Sitterley.

S-9 Smith, Robert S. See Hinman and Smith.

S-10 Smith, Robert S., Joseph B. Bugliari, and Elwyn G. Voss, "An Investigation of the Potential for Reducing Intergenerational Discontinuities Affecting Farm Firm Growth Through Estate Planning," Cornell Univ.

Objectives are to identify major problems encountered by farmowners in estate planning, determine the extent of estate planning among owners of large farms, and examine the effects of failure to accomplish estate planning on firm growth and productivity. Methods of analysis are by a survey of farmowners and by case studies of some of them. Fieldwork is completed and results will be summarized in late 1971.

S-11 Spurlock, H. C. See Golden and Spurlock.

S-12 Stauber, Steve. See Burt, Stauber, and Larson.

T-1 Taylor, Fred R. and Rex W. Cox, "Credit Problems of North Dakota Agriculture," N. Dak. State Univ.

Objectives are to determine needs and supply of farm credit, analyze methods of financing farm adjustments, and evaluate institutional lending policies and practices. The methods employed are analysis of variance, correlation analysis, measures of central tendency, and regression analysis. Secondary data, mail questionnaires, case studies, personal interviews and institutional credit files provide the data for this study. Results of several parts of the study have been published, and the project is budgeted until mid-1972.

U-1 Umberger, Dwaine. See Whittlesey, Wirth, and Umberger.

U-2 Umberger, Dwaine. See Wirth, Whittlesey, Rogers, Simunek, Johns, and Umberger.

V-1 Voss, Elwyn G. See Smith, Bugliari, and Voss.

V-2 Vreugdenhil, Harvey. See Johnson, Schaffner, Vreugdenhil, and Jerke.

W-1 Wegenhoft, Kenneth. See Eidman, Boehlje, Wegenhoft, and Jose.

W-2 Whittlesey, N. K. See Wirth, Whittlesey, Rogers, Simunek, Johns, and Umberger.

W-3 Whittlesey, N. K., M. E. Wirth, and Dwaine Umberger, "Financial Management of Capital Investments and Cash Flows in Different Farming Situations in Washington," Wash. State Univ. and ERS.

Objectives are to ascertain the major problems in financing intermediate-term investments on Washington farms and to develop guidelines for shortrun and longrun decisions. Some results have been obtained from personal interviews of farmers representing existing types of farming situations in the State. The project was scheduled for completion in June 1971; results will appear in a station bulletin.

W-4 Wiegmann, Fred H. and Jimmy C. Griffith, "Evaluation of the Credit Use and Financial Position of Medium and Large Scale Commercial Farms in Louisiana," La. State Univ.

Objectives are to determine the amount, source, and factors involved in credit use by medium- and large-scale farms in Louisiana. Information on farmers' knowledge of credit sources, interest rates, terms, and reason for loan will be sought, as well as changes in farmers' credit use practices in the last 10 years. Current and potential credit problems are studied. Methods of analysis are tabular analysis and frequency distributions of data from primary surveys of farmers and lenders. The project was to be completed in June 1971 and the findings published.

W-5 Wildermuth, John R., "Arizona's Contribution to Regional Project W-104," Univ. Ariz.

The objective is to analyze farm firm growth and the forces influencing it. This includes analyzing financial management problems, the effects on internal and external control of funds, and the impact of risk and uncertainty. A survey of 23 farms was made in one Arizona county and five farms will be studied in depth. A nationwide survey of production credit associations is completed and ready for publishing. Computer simulation will be used to estimate payoffs and risks for various resource configurations and management strategies. An additional nationwide survey of financial institutions dealing with long-term credit was planned for summer 1971. Ph.D. and M.S. theses will be completed in spring 1972. Journal articles and a station bulletin concerning early results of the study were to be completed in the first 6 months of 1971.

W-6 Williams, Dorwin "An Economic Analysis of the Capital, Credit, and Financial Conditions of Farmers," ERS and Univ. Mo.

The objective is to describe and evaluate the financial and related characteristics of selected types and sizes of farms. The study is mainly descriptive, using averages, percentages, and ratios. Some multiple regression analysis is used. Data are mainly from national farm surveys made by ERS in 1965 and 1967 and the mail-in farm records program of the University of Missouri. Reports for the Corn Belt have been prepared. The work was to be completed in June 1971.

W-7 Wing, Kenneth E., "Capital Accumulation Potential on Maine Broiler Farms," Univ. Maine.

The objective is to compare various capital investment alternatives in broiler production. Budgets of broiler enterprises were formulated and investment alternatives compared, using discounted cash flow methods. Results indicate that larger units are more able to meet annual expenses and debt repayments. Optimum-sized operations have been determined. Publication of results was scheduled for September 1971, at which time the project was to end.

W-8 Wirth, M. E. See Rodewald, Wirth, and Rogers.

W-9 Wirth, M. E. See Whittlesey, Wirth, and Umberger.

W-10 Wirth, M. E., N. K. Whittlesey, Leroy F. Rogers, Richard Simunek, Dick Johns, and Dwaine Umberger, "Economic Growth of the Agricultural Firm," Wash. State Univ. and ERS.

Objectives are to analyze financial management problems in growth of the firm, investigate intergeneration discontinuities, and select optimal growth patterns under various resource, financial, and personal situations. Data from farm surveys and case studies are being used. Evidence from personal interviews has been obtained concerning leasing of land and its effect on growth. The intergeneration transfer objective is reported under Leroy F. Rogers. The project will end in June 1973. Published so far is: Whittlesey, N. K. and D. E. Umberger, "Financial Structure of Large Farms in the Columbia Basin Project," Wash. Agr. Expt. Sta. Bul. No. 719, Feb. 1970.

W-11 Wise, James O., "An Economic Analysis of Capital Requirements and Alternative Methods of Acquiring Capital for Georgia Agriculture," Univ. Ga.

Objectives are to determine use, requirements, and alternative methods of acquiring capital for viable Georgia farm units and to evaluate and suggest ways of improving farm financial management and the flow of capital into agriculture. Capital requirements will be determined by trend analysis from secondary data and by linear programming and budgeting. Sample surveys will provide data on leasing, custom services, and other credit arrangements. Some results have been published and the project is continuing.

W-12 Withers, Russell V., "Land Tenure and Leasing Arrangements on Idaho Farms," Univ. Idaho.

Objectives are to determine land tenure practices in Idaho in the last 20 years, relate tenure to efficiency, and observe and analyze present leasing practices for efficiency in farm operations. Surveys of landlords, tenants, real estate brokers, and county lease records will provide the required information. The study, both descriptive and analytical in nature, began in July 1970 and may continue until mid-1973.

W-13 Woods, W. Fred and Virden L. Harrison, "Investing in a Beef Cow Herd: Can It Pay Its Way Without Income Tax Incentives," ERS.

This study was established to assist the Securities and Exchange Commission in appraising certain prospectuses regarding investment in beef cow herds and to guide the Internal Revenue Service and Congress in income tax provisions for investments in beef cow enterprises. A computer program was written to describe investment in beef cows from two points of view--farmer and outside investor. Several levels of off-farm income to be offset by beef cattle losses in early years will be compared. Other appropriate factors will be varied to determine their influence on profitability in beef cow investments. A basic objective is to determine if current tax incentives are required for operation of the U.S. cattle industry.

TEACHERS OF GRADUATE-LEVEL FARM MANAGEMENT

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University of Arkansas, Fayetteville	Waymon Halbrook James White
University of California, Berkeley	None
University of California, Davis	H. O. Carter G. W. Dean Quirino Paris
Colorado State, Fort Collins	None
University of Connecticut, Storrs	None
University of Delaware, Newark	None
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University of Idaho, Moscow	None
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University of Arkansas, Fayetteville	None
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University of California, Davis	None
Colorado State, Fort Collins	None
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