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AGRICULTURAL CREDIT and RURAL SAVINGS

Prepared by

**Capital Formation and Technological Change Project
Department of Agricultural Economics and Rural Sociology
The Ohio State University**

in cooperation with

A.I.D. Reference Center

for

**Office of Agriculture
Bureau for Technical Assistance
Agency for International Development**

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INTRODUCTION

Background

This bibliography was an outgrowth of activities sponsored by the Agricultural Economics and Sector Planning Division dealing with the credit problems of small and medium farmers in less-developed countries. In both 1971 and 1972 the Division, through a contract with the Agricultural Development Council in New York, sponsored several workshops to provide an opportunity for U.S. and foreign technical assistance specialists, and representatives of the academic community, to analyze the problems in this field.

As a result of the interest generated in AID Missions by these and related meetings, the Agricultural Economics and Sector Planning Division negotiated an additional component to an already existing contract with the Agricultural Economics and Rural Sociology Department of Ohio State University to provide certain research and consultative services to the Agency for International Development and to governments of less-developed countries in the area of agricultural credit. It was as a part of the services under this contract that the present bibliography was developed. The individuals responsible for the preparation of this manuscript are:

Dr. Dale W. Adams, Professor of Agricultural Economics and a staff member of the Department's Capital Formation and Technological Change Project, and

Mr. Gerald Nehman and Mr. Alan Reichert, both graduate students in the Department of Agricultural Economics and Rural Sociology.

Cooperating in this activity for AID was the AID Reference Center, Office of Data Management.

AID Spring Review Materials

Another outcome of the interest of AID Missions in the credit problems of operators of small-sized farms was the selection of this subject for the 1973 AID Spring Review. For this review of problems and policies for AID administrators and technicians and their counterpart officials in cooperating foreign governments, special country and analytical paper are being prepared. The first sets of country papers will be available about Feb. 1, 1973, and the analytical papers at a somewhat later date. A preliminary list of the papers now planned is given in Part III of this bibliography, as are directions for obtaining copies.

Additional Information

If AID missions overseas, or if AID staff members in Washington or in the field, have questions or problems about some aspect of agricultural credit or rural savings, they may address their inquiries to one of the agencies below, whichever seems to be the more appropriate:

- (1) Agricultural Economics and Sector Planning Division
Office of Agriculture
Bureau for Technical Assistance
AID
Washington, D.C. 20523
- (2) Capital Formation and Technological Change Project
Department of Agricultural Economics and Rural Sociology
The Ohio State University
Columbus, Ohio. 43210

Guides to the Use of this Bibliography

1. The Geographical and the Author-Publisher-Organization Indexes should be useful to those who have an interest in a particular region or country, or who have at least some information as to author, publisher or organization (see pages 54-60).
2. Individuals who want to refer to a broad general review of the field of agricultural credit are referred to the widely-used college text soon to be available in a new edition:

Nelson, Aaron G., Warren F. Lee and William G. Murray, *Agricultural Finance*. Sixth edition forthcoming in 1973. Iowa State University Press, Ames, Iowa. (See Item No. 62 in this bibliography.)
3. For a review of the credit problems of the small farmer in lesser-developed countries, see:

Belshaw, Horace, *Agricultural Credit in Economically Underdeveloped Countries*. 1959, 255 p. United Nations Food and Agriculture Organization, Rome. (See Item No. 16.)
4. For additional introductory materials on agricultural credit, see the following listings:

\ Bottomley, Anthony, Oct. 1964, Item No. 21.
Long, Millard, Nov. 1968, Item No. 55.
Nisbet, Charles, May 1969, Item No. 64.

5. For general references on the subject of rural savings, the following materials are suggested:

Ardener, Shirley, 1964, Item No. 108.
Kato, Yuzuri, Dec. 1966, Item No. 133.
Kelley, Allen C. and J. G. Williamson, April 1968, Item No. 134.
Mizoguchi, Toshiyuki, Dec. 1967, Item No. 145.
Suits, Daniel B., 1970, Item No. 157.

Copies of all of the above materials have been placed in the AID Reference Center for the convenience of AID staff members.

HOW TO OBTAIN DOCUMENTS

Loans

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USAID PERSONNEL. AID personnel at Missions may borrow documents by addressing to the ARC a 2-Way Memo (OF 27) *stating the ARC reference numbers and titles of the documents requested. Requests from participating agency and AID contractor personnel associated with a Mission should be made through the appropriate AID project officer. Loans to Mission personnel will be for 30 working days, including transmission time.

OTHERS. It is the general policy of ARC not to lend documents to non-AID personnel, but they may be used in the Reference Center.

Retention Copies

Staff members of AID and other international organizations working in the technical assistance field should make requests for retention copies directly to the originating mission or agency.

If some materials having ACTS numbers as a part of their listing are not available from the issuing organization, individuals may, as a last resort, order single copies from the Capital Formation and Technological Change Project (see address in the section above, titled Additional Information.) ACTS is the abbreviation for Agricultural Credit Technical Studies, the reference collection of the Department of Agricultural Economics and Rural Sociology at The Ohio State University. There will be a charge to cover reproduction and handling costs.

*AID Reference Center, Room 1656, New State Building, Agency for International Development, Washington, D.C. 20523.

ARRANGEMENT OF LISTINGS

There are three main sections in this bibliography. The first two deal respectively with agricultural credit and rural savings. The third is a preliminary list of papers prepared for the 1973 Spring Review of the Agency for International Development. The first two are covered in the Geographical and in the Author, Publisher and Organization Indexes; the Spring Review materials are not indexed. The individual references are listed alphabetically by the author's last name or by the name of the originating institution if there is no individual author.

ABBREVIATIONS

ACTS—the reference collection of the Ohio State University, Department of Agricultural Economics and Rural Sociology. For additional details, see the preceding section, "Retention Copies."

AID— Agency for International Development, present United States overseas technical assistance agency.

ARC— the AID Reference Center located in Room 1656, Main State Building, near the 21st St. entrance.

ICA— International Cooperation Administration, the immediate U.S. Government predecessor of AID in the technical assistance field.

PART I AGRICULTURAL CREDIT

1. Adams, Dale W, "Agricultural Credit in Latin America: A Critical Review of External Funding Policy," in *American Journal of Agricultural Economics*, Vol. 53, No. 2, May 1971, p. 163-172.
ACTS No. 370.¹

Presents data on changes in amount of institutional agricultural credit in Latin America from 1960 to 1968. It also examines critically a number of economic assumptions underlying past credit policy. It is argued that credit shortage is not the most pressing issue. Rather, emphasis should be placed on realistic pricing of rural credit and mobilizing rural savings for credit use through interest incentives.

2. Adams, Dale W et al., *El Credito Supervisado En La Reforma Agraria Colombiana*. 1966, 104 p. Centro Inter-Americano de Reforma Agraria, Bogota, Colombia. (In Spanish)
ACTS No. 230.

Study reports on farm interviews in Colombia with 295 supervised credit borrowers and 221 non-borrowers. Field work was carried out in mid-1965. The study concluded that, in general, borrowers were more prosperous than non-borrowers; and that the credit program was selecting the better farmers. The authors recommended that interest rates be raised and that less intensive supervision be given the farmers.

3. Agabin, Maliza H. and Verden C. Dangilan, "Development Bank of the Philippines." Feb. 1, 1972, 41 p. Unpublished report prepared for the Agricultural Credit Study Committee, Department of Agriculture and Natural Resources, Manila, Philippines.
ACTS No. 520.

Report presents information on the operations of the Development Bank of the Philippines. Special attention is focused on current financing policy, sources of financing, nature of government support, and lending problems.

4. Agricultural Credit and Cooperative Financing Administration (ACCFA), *Progress in Self-Help: ACCFA Third Annual Report, FY 1954-1955*. 1956, 43 p. Agricultural Credit and Cooperative Financing Administration, Manila, Philippines.
ARC Catalog No. 332.71, A278a, FY 1954-1955.

¹ACTS is the abbreviation for Agricultural Capital and Technology Studies, a special collection of reference materials located in the Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus. For further details regarding this collection, see page v of this bibliography, "Retention Copies."

Report presents a summary of ACCFA credit and cooperative activities during 1954 and 1955. About 280 farmer cooperatives were organized with 165,000 farmer members. Some problems with defaults were reported and concern was expressed about lack of money to make loans to small farmers.

5. Alers-Montalvo, Manuel, "Social Systems Analysis of Supervised Agricultural Credit in an Andean Community," in *Rural Sociology*, Vol. 25, No. 1 March 1960, p. 51-64.
ACTS No. 86.

The social change induced by a supervised credit program in a Peruvian community (1953-54) is the topic of this article. The program included formation of a cooperative to lease about 70 acres of community-owned lands, and granting of credit along with supervision to the cooperative. First-year results gave only small profits to farmers but did provide participants with additional technical knowledge.

6. Alves, Eliseu Roberto de Andrade, "An Economic Evaluation of the Impact of an Extension Program, Minas Gerais, Brazil." Jan. 1968, 137 p. Unpublished MS. thesis, Purdue University, Lafayette, Indiana.
ACTS No. 259.

The author has developed an analytical framework to evaluate the impact of extension services on the productivity of agricultural resources. His model was used to evaluate the results of the ACAR program in Minas Gerais, Brazil. Price and technological efficiency were the primary criteria used in the analysis. The results suggest that those farmers receiving technical assistance had a lower level of technical efficiency than those not receiving such assistance. In addition, the group receiving assistance had a relatively higher level of price efficiency. The author concludes that the program may be counter-productive but admits that several factors (such as inflation and asset maximization) may have influenced the results.

7. Andrews, Stanley, *Agricultural Credit: A Review of Selected Projects Supported by the International Cooperation Administration*. 1969, 165 p. Technical Assistance Study Group, ICA/Washington.
ACTS No. 077.

Author discusses the important characteristics of agricultural credit in underdeveloped countries. He briefly reviews credit programs found in Ethiopia, Jordan, Iran, Pakistan, India, Thailand, Vietnam, Taiwan and the Philippines. On the basis of these country reviews he suggests a list of barriers to improved performance of agricultural credit systems. These include high administrative lending costs, accumulation of scarce capital at the local level, and the reluctance of farmers to incur debt to increase production.

8. Baker, C. B., "Credit in the Production Organization of the Firm," in *American Journal of Agricultural Economics*, Vol. 50, No. 3, August 1969, p. 507-520. ACTS No. 543.

Author argues that unused credit capacity is similar to a balance-sheet liquid asset. It constitutes a reserve liquidity which can be called upon to meet unexpected events. A decision to use credit capacity results in an interest-rate cost as well as loss-of-liquidity cost. Author suggests a model for analyzing these costs.

9. Banco de Guatemala, *Memoria: Reunion de Dirigentes de Credito Agricola de America Latina*. 1967, 4 vols. Banco de Guatemala, Guatemala City. (In Spanish)

These volumes provide reports, speeches and data on agricultural credit programs in Latin America presented at a 1966 conference in Guatemala. An overview of agricultural credit systems in Latin America as of the mid-1960's is given. Volumes also provide insight into many assumptions which were used in developing agricultural credit programs in Latin America.

10. Barry, Peter J. and C. B. Baker, "Reservation Prices on Credit Use: A Measure of Response to Uncertainty," in *American Journal of Agricultural Economics*, Vol. 53, No. 2, May 1971, p. 222-227. ACTS No. 445.

Paper reports on a means of estimating values associated with the liquidity provided by unused credit—defined as the unused capacity to borrow. Authors suggest that credit maintained as a reserve has value to the potential borrower. Data from several cash-grain farms in central Illinois were used in a linear programming model to test this suggestion. Authors conclude that their model associates high credit reservation prices with conservative borrowers, and low reservation prices with liberal borrowers.

11. Barry, Peter J. and John R. Brake, *Financial Strategies and Economic Decisions of the Firm*. Agricultural Economics Report No. 185. Feb. 1971, 29 p. Department of Agricultural Economics, Michigan State University, East Lansing, Mich. 48823.

Publication discusses financial strategies that a farm manager might use as related to his life cycle. A conceptual model is presented which draws upon the existing resources, the objectives of the firm manager, alternative courses of action, constraints within which he must operate, technical relations, coefficients and expectations. Within that setting, financial strategies are discussed for acquiring initial farm resources for growth or consolidation, and disinvestment stages of the firm.

12. Battles, Ralph U., "Agricultural Credit Programs in Latin America." Aug. 8-10, 1966, 38 p. Unpublished report on the first meeting of U.S. Agricultural Credit Technicians in Latin America, Guatemala City, Guatemala.
ARC Catalog No. LAT 332.71, U58.

Reports on a number of agricultural credit programs funded by AID in Latin America. Institutional forms for handling credit were discussed. Some conclusions and recommendations for improving AID credit technicians' activities are also presented.

13. Battles, Ralph U., "Report on Agricultural Credit in Turkey." Oct. 1960, 28 p. Unpublished study carried out for the Turkish Ministry of Agriculture, Ankara, Turkey.
ARC Catalog No. TU332.71, B336.

Reviews Turkey's agricultural credit system during the 1950's and presents recommendations to improve the system. Author found that Turkey had an extensive agricultural credit system, funds for credit were quite limited, slow repayment and defaults on loans were a serious problem, and interest rates on credit were too low. He recommends tighter management, additional training for credit officials, and stricter loan collection policies.

14. Baum, E. L. et al. (eds.), *Capital and Credit Needs in a Changing Agriculture*. 1961, 406 p. The Iowa State University Press, Ames, Iowa 50010.

This book is divided into four parts:

- (a) Capital and Credit in Economic Growth.
- (b) Changing Capital Structure in Agriculture.
- (c) Credit Market and Institutions (reviewed below).
- (d) Values and Education in Relation to Capital Use and Productivity.

Several papers in the book argue that the main reason for high interest rates in agriculture is the administrative cost of small loans. Administrative costs may be reduced by use of open-ended mortgages allowing for automatic extensions and by packaged credit including capital purchases, production and consumer credit. However, programs of this type reduce control by the lender. General conclusion is that present institutional arrangements serve agriculture well but there are grounds for improving delivery systems (particularly educating bank agents with respect to agricultural problems). Authors conclude that reorganizing credit institutions so as to cope with the poverty issue is not feasible.

15. Belshaw, H., "Capital and Credit," p. 4-15 in *Selected Readings in Agricultural Credit*, International Conference on Agricultural and Cooperative Credit sponsored by the Department of State, Technical Cooperation Administration, held at the University of California, Berkeley, Aug. 4 to Sept 12, 1952. Out of print.
ACTS No. 217.

Author discusses the nature, sources and economic uses of capital in the development process. He points out that credit and capital are not synonymous. Capital represents the accumulated stock of real wealth while credit simply represents a transaction whereby the control over existing capital is transferred from one individual to another.

16. Belshaw, Horace, *Agricultural Credit in Economically Underdeveloped Countries*. 1959, 255 p. United Nations Food and Agriculture Organization, Rome. Out of print.
ARC Catalog No. 332.71, B452.

Book is based on FAO studies and conferences concerned with the Far East. It examines credit as a tool for promoting economic development, and stresses the need for balanced development. Author argues that commercial banks are often unsuited to provide agricultural credit, except for large commercial farms. He also discusses various credit delivery systems using case studies from the Philippines, Indonesia and Costa Rica.

17. Benjamin Spiro Associates, Inc., "Intermediate Credit Institutions in Brazil." May 1965, 59 p. Unpublished report prepared for USAID/Brazil.
ARC Catalog No. BR332.3, S759.

The objectives of this report are to review the nature of Brazil's credit institutions, suggest ways of coordinating intermediate credit, and discuss effective technical and financial procedures. The report stresses the importance of institutional development and training to create a strong intermediate credit system.

18. Blitz, Rudolph and Millard Long, "The Economics of Usury Regulation," in *The Journal of Political Economy*, Vol. LXXIII, Feb.-Dec. 1965, p. 608-619.
ACTS No. 413.

Historically, the objectives of usury legislation have been to protect the small borrower from monopolistic creditors and regulate the allocation of resources. The authors point out that monopoly in the credit market is not a function of product (loan) differentiation but is caused by differentiated borrowers. It is the less risky borrowers with substantial levels of collateral who stand to benefit most from usury legislation. A low interest rate ceiling will effectively eliminate many potential borrowers. The authors conclude that instead of appealing to devices which by nature disrupt the price-allocation mechanism, it would be more efficient to work toward improving the competitive situation within the credit market itself.

19. Bottomley, Anthony and Donald Nudds, "A Widow's Cruise Theory of Credit Supply in Underdeveloped Rural Areas," in *The Manchester School of Economic and Social Studies*, No. 2, June 1969, p. 131-140.

ACTS No. 43.

Article presents a theoretical discussion of agricultural credit supply and interest rate determination for less developed areas. Authors argue that high interest rates are a significant development obstacle, but that interest rates will likely fall with an over-all increase in demand for productive loanable funds. Policy conclusion is that governments should connect any rural innovations with urban money markets, thus inducing more competitive rural money markets.

20. Bottomley, Anthony, "Interest Rate Determination in a Barter Economy," in *The Developing Economies*, Vol. 1, No. 1, Jan.-June 1963, p. 71-78.

ACTS No. 468.

The author suggests that the pure rate of interest, distinct from various administrative, risk and monopoly charges, in underdeveloped areas is determined by the demand for and supply of the existing stock of goods. He lists several factors affecting the demand for goods, concentrating heavily upon the speculative and precautionary demand for existing stocks. On the supply side, the value of net imports is singled out for policy reasons. He concludes that greater access to foreign aid in rural areas and expanded credit both affect the demand for goods (reducing the speculative and precautionary motives) and increase the supply of these goods. Both forces operate to lower the pure rate of interest in rural areas.

21. Bottomley, Anthony, "Monopoly Profit as a Determinant of Interest Rates in Underdeveloped Rural Areas," in *Oxford Economic Papers: New Series*, Vol. 16, No. 3, Oct. 1964, p. 431-437.

ACTS No. 047.

Author defines monopolistic interest rates as any excess charges over the sum of the opportunity costs of capital, administrative costs, and a premium for risk. He examines the competitive positions of the borrower and lender and concludes that monopoly profits arise from the ignorance and low productivity of borrowers. These high rates in general stem from a lack of economic growth. Any real solution depends on the borrower's ability to qualify for institutional loans through better security arrangements.

22. Bottomley, Anthony, "The Costs of Administering Private Loans in Underdeveloped Rural Areas," in *Oxford Economic Papers*, Vol. 15, No. 2, July 1963, p. 154-163.

ACTS No. 46.

The author argues that a significant part of the high interest rates on non-institutional loans in rural areas is due to lenders' administrative costs. He concludes that these costs cannot be lowered until economic growth has progressed to the point where a large volume of loans can be made by lenders.

23. Bottomley, Anthony, "The Determination of Pure Rates of Interest in Underdeveloped Rural Areas," in *Review of Economics and Statistics*, Vol. XLVI, No. 3, Aug. 1964, p. 301-304.
ACTS No. 054.

The author suggests that moneylenders' costs are a composite of administrative costs, risk charges and the opportunity cost of lending money. The opportunity cost of lending in rural areas could be reduced by the provision of short-term government securities to village moneylenders. In addition, this cost may be lowered by making the discounting facilities of the organized credit market more accessible by improving collateral instruments and associated institutional arrangements.

24. Bottomley, Anthony, "The Premium for Risk as a Determinant of Interest Rates in Underdeveloped Rural Areas," in the *Quarterly Journal of Economics*, Vol. 77, 1963, p. 637-647.
ACTS No. 52.

The author argues that a significant part of the interest rate on private loans is due to risk of non-repayment. His main concern is to identify ways to reduce this risk factor. He concludes that in poor rural areas this risk factor can be reduced mainly by increasing the over-all productivity of the farmers.

25. Brake, John and Yong Jin Kim, "The Credit Delivery System in Korea." Dec. 1971, 22 p. Unpublished paper prepared for USAID/Korea by the Department of Agricultural Economics, Michigan State University, East Lansing, Mich. 48823.
ACTS No. 549.

The authors describe the Korean rural credit system as of 1970. This includes a description of credit granted by the National Agricultural Cooperative Federation, the mutual credit associations, private moneylenders and KE credit societies. A discussion of the rural interest rate structure and several suggestions for ways of estimating rural credit demand are also included.

26. Brake, John R., "Can Rural Banks Meet Increased Farm Credit Demands?" in *Banking Journal of the American Banker's Association*, April 1968, p. 80-83.

This article examines some of the common alternatives rural banks in the U.S. might use to meet increased farm credit demands. It concludes that, without new institutions servicing rural banks or changes in existing institutions, rural banks in the U.S. will continue to lose their share of farm credit business.

27. Brake, John R., "Capital and Credit," Chapter 8, p. 123-143, in Earl O. Heady and A. Gordon Ball (editors), *Size, Structure and Future of Farms*. 1972. Iowa State University Press, Ames, Iowa 50010.

This paper discusses the implications for farm organization and credit delivery systems of increasing credit needs in U.S. agriculture. It suggests that farms will incorporate and will utilize more non-equity capital (e.g. rented land). Future means of financing agriculture may include lower equity requirements, permanent-debt financing of land purchase, and longer terms on medium-term loans. As debt loads increase, credit institutions will impose tighter control over loans and the farm operator's control over finances will be reduced.

28. Brake, John R., "Capitalizing Agriculture in Coming Years," in *Emerging and Projected Trends Likely to Influence the Structure of Mid-west Agriculture, 1970-1985*, John R. Brake (ed.). Monograph No. 11. June 1970, 27 p. Agricultural Law Center, University of Iowa, Iowa City, Iowa 52240. ACTS No. 550.

This monograph contains the proceedings of a seminar sponsored by the North Central Land Economics Research Committee in 1969. The Brake paper reviews developments in the area of farm credit in the U.S. over the past 50 to 100 years. There is a short evaluation of the Farm Credit System and Farmers Home Administration credit programs. Data are presented on assets and debts of U.S. agriculture. There is discussion of future capital and credit needs of agriculture with a number of suggested implications.

29. Brake, John R., *Future Capital and Credit Needs of Canadian Agriculture*. Publication No. AE 70/3. 1970, 42 p. Department of Agricultural Economics, University of Guelph, Guelph, Ontario, Canada. ACTS No. 551.

This publication is an analysis and projection of future capital and credit needs of Canadian agriculture based on a cash flow analysis. It includes a model for looking at cash flows of the farming sector. Both conceptual and data problems are discussed. Cash flows are estimated for 1966 and 1967, and projected to 1980. The publication is a rather complete illustration of an application of the cash flow model to capital and credit analysis.

30. Brake, John R., "Impact of Structural Changes on Capital and Credit Needs," in *Journal of Farm Economics*, Vol. 48, No. 5, Dec. 1966, p. 1536-1545.
ACTS No. 539.

This article projects future capital and credit needs of U.S. agriculture. At the time of this study, U.S. agricultural debt stood at \$37.5 billion. The article projects the 1980 debt of farmers at \$100 billion. It includes a model for projecting real estate debt and discusses the implications of the large additional credit needs of U.S. agriculture.

31. Brake, John R., *Interest Rate Terminology and Calculation*. Agricultural Economics Report No. 13. March 1966, 31 p. Department of Agricultural Economics, Michigan State University, East Lansing, Mich. 48823.
ACTS No. 552.

This publication discusses interest terms and various formulas for calculating interest rates on loans. It documents inconsistent terminology in the literature dealing with interest rate concepts. It includes definitions of interest rate concepts consistent with the literature in the mathematics of finance, and illustrates the use of formulas and applications of interest rate concepts. A number of formulas are given for approximating interest rates on various loan plans.

32. Catanach, I. J., *Rural Credit in Western India, 1875-1930*. 1970, 269 p. University of California Press, Berkeley, Calif. 94720.

This study examines the rural credit situation in Western India following debtor riots in 1875. It also assesses the results of cooperative societies formed to remedy problems of agricultural indebtedness. The author argues that strong cooperatives will result when most of their members are from the rural middle classes.

33. Chen, H. Y and R. A. Bailey, *Agricultural Credit in Taiwan*. AFC Research Publication 109. Aug. 1966, 56 p. Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210.
ACTS No. 559.

The main purpose of this paper was to describe the institutions and agencies involved in financing Taiwan's agriculture. Information on amounts of agricultural credit, types of loans, interest-rate policies and the role of the farmers' association in rural credit is also presented.

34. Colyer, Dale and Guillermo Jimenez, "Supervised Credit as a Tool in Agricultural Development," in *American Journal of Agricultural Economics*, Vol. 53, No. 4, Nov. 1971, p. 639-642.
ACTS No. 417.

The authors evaluate the effectiveness of a supervised credit program inaugurated in Colombia in 1964. The basic objective of the credit program was to stimulate agricultural production and increase income. Data from a small sample of participants and non-participants in the supervised credit program between 1965 and 1968 were collected and analyzed. A Cobb-Douglas production function was used to test the relative effectiveness of the supervised credit program. The authors conclude that the program was effective in inducing change consistent with its stated objectives. They suggest that specific credit programs tailored to small farm needs must be designed and implemented if income differentials are to be reduced.

35. Comité Interamericano de Desarrollo Agrícola, *El Credito Agrícola en Costa Rica*. 1966, 183 p. Pan American Union, Washington, D.C. 20006. (In Spanish) ACTS No. 35.

This study reports on a survey of agricultural credit in Costa Rica. It includes a survey of the over-all rural credit system, outlines some policy suggestions, and also presents farm-level information based on 320 farm interviews. Most of the suggestions for policy changes relate to changing the organizational framework of the credit system.

36. Cross-Vogel, Robert and Claudio Gonzales-Vega, "Agricultural Credit in Costa Rica." July 1969, 157 p. Unpublished report prepared for USAID/Costa Rica. ACTS No. 518.

This report provides extensive information on the institutional as well as the non-institutional sources of rural credit in Costa Rica through 1968. It also discusses credit needs by specific commodities. The authors argue that agricultural credit should be rationed by higher interest rates rather than through administrative means. They also make some suggestions for improving administration of the banking system. They suggest that high rates of interest be paid on savings deposits in cooperatives to induce more savings.

37. Dantwala, M. L., "Institutional Credit in Subsistence Agriculture," in *International Journal of Agrarian Affairs*, Vol. 5, No. 1, Dec. 1966, p. 52-61. ACTS No. 128.

This article reviews the condition of India's agricultural credit system. The importance of non-institutional credit and the difficulties with cooperative credit are discussed. The author argues that to change from moneylender credit to institutional credit, farms must switch from subsistence to commercial agriculture.

38. Davis, Jon S., "A Study of a Pilot Project in Directed Agricultural Production Credit in Ecuador." Nov. 1, 1969, 224 p. Unpublished study sponsored by USAID/Ecuador.
ACTS No. 031.

Study reports on interviews with 230 farmers and ten agricultural technicians associated with 26 credit unions in Ecuador. The author concluded that (1) too much emphasis was being placed on institution-building and not enough on providing productive credit to farmers, (2) more national control of activities was needed, (3) more qualitative evaluation of the program was needed, and (4) lack of trained manpower was slowing expansion of credit unions.

39. Duggan, I. W. and Ralph U. Battles, *Financing the Farm Business*. 1950, 354 p. John Wiley & Sons, 605 Third Ave., New York, N.Y. 10016.

This text was written to help young farmers understand important financial problems. About half of the book covers principles of farm financing and the remaining portion treats various sources of agricultural credit, mainly in the U.S.

40. Early, John O., "An Economic Analysis of Agri-Business Credit Sources and Uses in the Itapetinga and Sao Jose do Rio Preto Areas, Sao Paulo, Brazil." 1970, 191 p. Unpublished Ph.D. dissertation. Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210.

Thesis is based on interviews in 1966 with buyers and sellers of farm inputs. The objective was to determine how additional credit to agri-business firms would affect their rate of expansion and their ability to extend credit to farmers. It stresses the importance of informal credit from suppliers to agri-business firms and from these firms to farmers. Conclusion is that if agri-business firms had more credit available to them, they would play a greater role in extending credit to farmers.

41. Eidam, John E. et al., "Agricultural Credit Needs in Argentina." Nov. 1962, 43 p. Unpublished report prepared for USAID/Argentina.
ARC Catalog No. AR332.71, E34.

Report surveys the credit needs of farmers and ranchers in Argentina in early 1960's. It evaluates the existing system and recommends changes. Authors conclude that credit is very short in rural areas, that a specialized agricultural bank should be created, that returns to agricultural investment are low due to government pricing policy, and that supervised credit is necessary.

42. Far East Agricultural Credit Workshop, *Agricultural Credit in the Far East*. Proceedings of the Third Periodic Workshop in the Far East, Saigon, Vietnam, Oct. 24-Nov. 5, 1960, 204 p.
ARC Catalog No. FEA 332.71, F219.

Reports on bi-annual agricultural credit workshop held in Southeast Asia. The first workshop was held in Manila in 1956. At each workshop a brief summary of current agricultural credit activities in each country is presented. Recommendations for policy changes are also made.

43. Feder, Ernest, "Feudalism and Agricultural Development: The Role of Controlled Credit in Chile's Agriculture," in *The Journal of Land and Public Utility Economics*, Vol. 36, No. 1, Feb. 1960, p. 92-108.
ACTS No. 58.

The implementation of the agricultural credit program in Chile during the late 1950's and the way credit was allocated among farmers are the central issues in this article. Because of rapid inflation, very little long-term credit is available in Chile, and the resulting negative real rates of interest charged on loans caused an excess in demand. The author concludes that only the large estate owners have access to funds because credit is not allocated on developmental criteria. He argues that more credit should go to small farmers.

44. Food and Agriculture Organization (FAO), *Agricultural Credit Through Cooperatives and Other Institutions*. 1965, 212 p. United Nations Food and Agriculture Organization, Rome.

Report focuses on ways to strengthen the provision of credit to agriculture, especially through cooperatives. The "traditional" outlook of the farmer is stressed as the major problem in rural credit systems. The importance of monopoly profits in the non-institutional credit system is also emphasized. Inefficiencies in the institutional credit system including cooperatives are also discussed. The study concludes that integrating credit with other developmental activities is a prerequisite to success, and that additional training of lenders and borrowers is needed.

45. Gapud, Jose P., "Financing Lowland Rice Farming in Selected Barrios of Munoz, Nueva Ecija," in *Economic Research Journal*, Vol, VI, No. 2, Sept. 1959, p. 74-82.
ACTS No. 202.

This study is an attempt to test empirically the hypothesis that low levels of income and a general lack of credit in the Philippines impede capital formation. It is based on a sample of small farms divided into three groups: owners, part-owners and tenants. The patterns of past farm expenditures and borrowing

were analyzed and comparisons made between these selected tenancy groups. The results suggest that the farmers should make a greater effort to reduce family expenses and devote more borrowed funds to productive investments. At the same time, rural credit institutions should make a greater effort to extend their funds to a wider population of small farmers.

46. Gregg, Russell B., "Agricultural Credit in Tunisia." Circa 1968, 26 p. Unpublished report prepared for USAID/Tunisia. ARC Catalog No. TS 332.71, G819.

Report provides background on the agricultural credit system in Tunisia. It points out that most of the agricultural credit was going to cooperative production units. A short discussion of the mutual credit program (credit unions) is also presented. The author concludes that a supervised credit program is needed to service small farmer needs.

47. Hendry, James B., "Credit and Savings in a Rural Community." See Chapter 10, p. 205-233, in *The Small World of Khanh Hau*. 1964. Aldine Publishing Co., 529 Wabash Ave., South, Chicago, Ill. 60605. ACTS No. 181.

The author reports on credit and savings in 1959 among 100 households in a rural area located in the Mekong Delta region of Viet-Nam. The author found that informal sources of credit were very important, and that much of the credit was used to cover farm operating expenses. Reports are made on informal rotating credit associations in the area and on various forms of savings.

48. Hoerger, William George, "Participants in a Pilot Supervised Credit Program: A Comparison of 20 Colombian Small Farms in 1965 with 1961." 1968, 171 p. Unpublished M.S. thesis, Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210.

The main objective of this study was to measure economic changes which occurred among 20 farmers in a pilot supervised credit program in Central Colombia. Begun in late 1960, the project covered 65 small farm families. The program was terminated in late 1962. The study found few economic changes due to the credit program among the farms studied.

49. Inter-American Development Bank (IDB), "Evaluation de Programas Globales de Credito Agricola En Seis Paises Latinoamericanos." Document on Agricultural Development No. 21. Aug. 1971, 136 p. Inter-American Development Bank, 808 Seventeenth St., N.W., Washington, D.C. 20577. (In Spanish) ACTS No. 352.

Ten IDB projects in Brazil, Chile, Guatemala, Nicaragua, Panama and Paraguay were evaluated. Study reports that loans helped to mobilize national resources, but that the loan programs did not become self-sustaining because of capital erosion caused by low interest rates, high administrative costs, and inflation. The beneficiaries were small farmers and were found to have improved their economic position in most of the cases. Study concludes that the bank should require that complementary programs be instituted in marketing, price supports, etc., when loans are made.

50. International Development Services, "An Agricultural Credit Program for Honduras." June 1965, 134 p. Unpublished report prepared for the Banco Nacional de Fomento of Honduras by International Development Services, Inc., Washington, D.C.
ARC Catalog No. HO 332.71, I61.

Study reviews the nature of the agricultural credit system in Honduras. Conclusions are that much more institutional credit is needed, that funds for credit should be raised by the sale of government bonds, that supervised credit is needed for small farmers, and that some administrative changes are necessary.

51. Johl, S. S. and C. V. Moore, *Essentials of Farm Financial Management*. 1970, 152 p. Today and Tomorrow's Printers and Publishers, New Delhi, India.

The primary objective of this book is to review the nature of Indian agricultural credit institutions and to present basic farm management principles related to credit use. The authors discuss three basic credit questions:

- (a) Will investments made from credit have high returns?
- (b) Will farmers be able to repay the loans?
- (c) Can farmers handle the risks associated with changes in production caused by credit use?

The authors also provide an extensive bibliography on agricultural credit in India.

52. Kang, Chang Kyu, *The Influence of "KE" Societies upon Ri-Dong Agricultural Cooperative Associations*. 1969, 182 p. Economic Planning Board, Seoul, Korea.
ACTS No. 384.

Study reports on findings from survey carried out in 1967-68 in the Korean province of Chung Chong-Pukto. It attempts to evaluate the relationship between the informal KE societies, a type of rotating savings-credit association, and government-sponsored rural cooperatives. The author found that where "KE" prospered, the cooperatives had a difficult time becoming viable. He goes on to suggest ways of strengthening rural cooperatives in Korea.

53. Khan, Irshad, M. D., "The Development of Institutional Agricultural Credit in Pakistan," in *The Pakistan Development Review*, Vol. III, No. 1, Spring 1963, p. 67-97.
ACTS No. 208.

The author analyzes both the supply and demand for agricultural credit in Pakistan. A model is developed to estimate current and future credit requirements. Credit institutions are examined with respect to their level of lending, regional differences in the distribution of credit, and the factors and motives which explain variations in credit supply. He concludes that the borrowers' ability to repay out of future earnings, and not the traditional lending emphasis upon tangible fixed collateral, is the proper criterion for credit worthiness.

54. Lall, Sanjaya, "Countering Inflation: The Role of Value Linking," in *Finance and Development*, Vol. 6, No. 2, June 1969, p. 10-15.
ACTS No. 177.

The author discusses the effects of inflation on the process of economic development. The difficulties of financing long-term investment and efficient resource allocation are also noted. He analyzes the advantages and disadvantages of programs aimed at maintaining the purchasing power of financial agreements (value linking). He argues that careful attention must be paid to the appropriate adjustment base to prevent unwarranted bias.

55. Long, Millard F., "Why Peasant Farmers Borrow," in *American Journal of Agricultural Economics*, Vol. 50, No. 4, Nov. 1968, p. 991-1008.
ACTS No. 48.

Article points out that interest rates on rural credit in poor countries are thought to be too high. The author, therefore, asks why peasants borrow. He concludes that great diversity exists in rural areas: many farmers do not borrow, others have high marginal returns on investments, and still others borrow at low rates of interest.

56. Long, Millard F., "Interest Rates and the Structure of Agricultural Credit Markets," in *Oxford Economic Papers (New Series)*, Vol. 20, No. 2, July 1968, p. 275-288.
ACTS No. 325.

The author is interested in determining the relative significance of agricultural loans which are transacted under monopolistic terms. He first examines the theoretical requirements, such as the number of lending firms and barriers to entry inherent in any monopoly situation. Next, an empirical analysis of Indian agricultural loan data is made in an effort to test the hypothesis that "high" interest rates are evidence of monopoly forces at work. He concludes

that many high interest charges can be adequately explained by competitive factors such as scarce capital, high administrative costs, high risk, production uncertainties and seasonal credit demand.

57. Miller, Fred, "Supervised Credit and Agricultural Development: A Peruvian Example," in *Inter-American Economic Affairs*, Vol. 23, No. 4, Spring 1970, p. 13-22.

ACTS No. 91.

Focuses on problems in the supervised credit program in Peru during the late 1960's. The author concludes that credit use has been associated with little increase in production and that high default rates are due to lending to very small farm units. He also argues that supervised credit should not be a welfare program.

58. Mitchell, Samuel X., "A Credit Union Development Program for Liberia." Dec. 31, 1969, 19 p. Unpublished paper prepared for USAID/Liberia by CUNA International Inc., Madison, Wis.
ARC Catalog No. 344.2, M682.

Report provides background on credit union activities in Liberia during the mid-1960's. The author feels that much more credit union activity could be generated with additional technical assistance.

59. Montero, Luis Eduardo, "The Allocation of Agricultural Credit in Colombia." 1969, 114 p. Unpublished M.S. thesis, Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210.
ACTS No. 145.

The main objective of this research was to document empirically the allocation of agricultural credit among different farm categories and credit institutions. The Colombian data were collected from four municipios during the 1965-66 period. The results suggested that the small-farm group receives fewer loans per farm, a smaller amount of credit per farm, and shorter-term loans than large farms. Collateral in the form of real estate was found to be highly significant in bank decisions to make loans. This reinforced the bias against small farm loans.

60. Moore, Frank J., "A Note on Rural Debt and Control of Ceremonial Expenditure in India," in *Economic Development and Cultural Change*, Vol. 2, 1953-54, p. 408-415.
ACTS No. 42.

Reviews publications on private ceremonial expenditures and debt burden in India. Also evaluates attempts which have been made to reduce non-productive uses of credit. The author concludes that use of income and credit for ceremonial purposes has been very important in India. He also sees no way of developing programs to reduce these types of expenditures.

61. Morley, Samuel A., "Inflation and Stagnation in Brazil," in *Economic Development and Cultural Change*, Vol. 19, No.2, Jan. 1971, p. 184-203.
ACTS No 469.

Concentrating entirely upon the industrial and commercial sector, the author presents empirical evidence which suggests that the traditional theories of cost-push or demand-pull inflation fail to explain adequately Brazil's inflation and relative economic stagnation during the 1960-66 period. The author suggests that a severe scarcity of business credit acted as one constraint. Thus, past monetary policies directed at reducing demand crippled the ability of firms to finance working capital and expand output. The results of government policies begun in 1967 seem to support this view.

62. Nelson, Aaron G., Warren F. Lee and William G. Murray, *Agricultural Finance*. Sixth edition forthcoming in 1973. Iowa State University Press, Ames, Iowa 52240.

Book is a basic text on agricultural finance used at many U.S. universities. It covers two main topics: (1) principles of agricultural finance, and (2) an analysis of lending agencies. Three basic finance principles are emphasized: (a) economic returns from credit use, (b) repayment capacity of borrowers, and (c) risk-bearing ability of borrowers. Almost all examples used in the text are drawn from the U.S.

63. Nisbet, Charles T., "A Model for Analyzing some Effects of Discriminatory Credit in Chile," in *Social and Economic Studies*, Vol. 19, No. 2, June 1970, p. 202-212.
ACTS No. 416.

The author presents a production model which indicates that Chile's credit policy discriminates against labor. This prevents producers from achieving the objective of maximum agricultural output. A credit policy which allows the financing of both capital and labor inputs would lead to an expanded level of output. Several common methods of circumventing this restriction are presented. It is also argued that the negative real interest rates common to the agricultural sector adversely affect the efficient allocation of capital within the sector.

64. Nisbet, Charles T., "The Relationship Between Institutional and Informal Credit Markets in Rural Chile," in *Land Economics*, Vol. 45, No. 2, May 1969, p. 162-173.
ACTS No. 30.

The author presents information on the relationship between institutional and informal credit systems in rural Chile. His information is drawn from field work carried out in the mid-1960's. He argues (1) that there are two credit markets

in Chile; one serviced by banks and the other by informal credit sources, and (2) that wealthy farmers are more closely tied to bank credit than poor farmers.

65. Oluwasanmi, H. A. and J. A. Alao, "The Role of Credit in the Transformation of Traditional Agriculture: The Western Nigerian Experience," in *The Nigerian Journal of Economic and Social Studies*, Vol. 7, No. 1, March 1965, p. 31-50. ACTS No. 65.

Article presents a general discussion of credit and capital needs in traditional agriculture. A brief description of agricultural credit institutions in Nigeria and an analysis of data from 22 local loan boards in Western Nigeria are also presented. The authors stress the problems of loan repayment and the large number of loans going to non-farmers. They suggest farm planning as a way of overcoming some of these problems.

66. Onchan, Tongroj and Shao Ong, "Institutionalizing Agricultural Credit in Thailand." Paper presented at a seminar on Agricultural Credit Problems in Thailand meeting in Bangkok on Nov. 12, 1971. Sponsored by the Agricultural Development Council, Inc., Singapore office, 14 p. ACTS No. 462.

The authors suggest that technological change will generate a greater need for agricultural credit. This need can only be met through a more broadly defined institutional credit system. The report describes the major sources of institutional credit currently in operation in Thailand and suggests that substantial progress has been made in the past five years. The authors insist that a unified institutional credit system is needed to provide low-cost funds for an expanding agricultural sector in Thailand. Existing credit institutions are discussed. The authors suggest that: (1) credit cooperatives should be strengthened in order to mobilize savings, (2) production and marketing loans should be integrated, and (3) loan size should be increased.

67. Oweis, Jiryis S., "Agricultural Credit Policy in Developing Countries." March 1972, 57 p. Unpublished paper, Bureau of Program and Policy Coordination, Agency for International Development, Washington, D.C. 20523. ACTS No. 519.

Paper examines economic aspects of agricultural credit policies in developing countries. Particular emphasis is placed on interest rates. The author argues that, in general, interest rates on agricultural credit should be raised to allocate resources more efficiently, and that interest rates on savings should be raised to mobilize more rural savings.

68. Pan American Development Foundation, "Credit for Marginal Groups." Dec. 1, 1969, 252 p. Unpublished report prepared for the Inter-American Development Bank, 808 Seventeenth St., NW., Washington, D.C. 20577. ARC Catalog No. LAT 332.3, A187.

Paper reports on private sector credit and technical assistance provided to marginal groups in Latin America: cooperative banks, credit unions, technical service organizations and foundations. Programs in the Dominican Republic, Chile, Ecuador, Colombia and Guatemala are reviewed. Study concludes that private sector activities can provide a very valuable credit service to marginal groups.

69. Pani, P. K., "Cultivators' Demand for Credit: A Cross Section Analysis," in *International Economic Review*, Vol. 7, No. 2, May 1966, p. 176-203. ACTS No. 235.

Using data on rural credit collected by the Reserve Bank of India for two sample periods (1951-52 and 1956-60), the author has estimated a demand function for agricultural credit. He uses value of loans received during the period as the dependent variable, and average interest rates, capital expenditures, family expenditures and value of household assets as the set of independent regressors. The author concludes that the average cultivator's demand for credit is partially sensitive to changes in interest rates. In addition, the level of borrowing is most closely tied to farm capital expenditures and family expenditures.

70. Penny, D. H., "Farm Credit Policy in the Early Stages of Agricultural Development," in *Australian Journal of Agricultural Economics*, Vol. 12, No. 1, June 1968, p. 32-45. ACTS No. 234.

The author discusses the farm credit policies pursued by governments in low-income countries. He argues that in the early stages of development, peasant attitudes to debt are such that cheap credit is unlikely to be a useful stimulus to growth. Empirical evidence is presented which indicates that the effectiveness of credit depends on the ability and willingness of the peasants to devote borrowed funds to productive uses. The poor performance of many government rural credit programs in less-developed countries is discussed and several criteria for a successful program are presented.

71. Peters, Charles W., "Agricultural Credit and Marketing in Northeast Thailand." 1966, 56 p. Unpublished report prepared for USAID/Thailand. ARC Catalog No. TH 332.71, P481.

Report presents a description of the sources and terms of agricultural credit in Northeast Thailand as of 1965. It discusses the relationship between credit and marketing systems, and suggests ways of improving their performance. Information on credit use among 401 farmers interviewed in 1965 in Northeast Thailand is also presented. Conclusions are: (1) institutional credit should carry realistic rates of interest, (2) loan supervision is needed, (3) rural savings should be encouraged, and (4) credit and marketing systems are closely inter-related.

72. Please, Stanley and Leif E. Christoffersen, "Value-Linking of Financial Contracts." Jan 2, 1969, 66 p. Unpublished manuscript, Economics Department, Fiscal Policies of Developing Countries Division, International Bank for Reconstruction and Development, 1818 H. St., NW., Washington, D.C. 20433.
ACTS No. 76.

The authors focus on ways to efficiently adjust financial markets to inflation through use of price indexing to adjust payments made on savings and credit. In addition to a general discussion on value-linking, they also evaluate the experience with value-linking in four countries. Conclusions are that value-linking of financial assets is the only viable policy alternative under conditions of high rates of inflation.

73. Purcell, Arthur H., "Position Paper: The Role of Cooperative Finance in Agriculture and Cooperative Development in Developing Countries." May 24, 1968, 38 p. Unpublished memorandum, Agency for International Development, Washington, D.C.
ARC Catalog No. 332.71, P986.

The author discusses the advantages and disadvantages of cooperatives in less-developed countries. He argues that cooperatives should play a major role in rural capital markets. He concludes by suggesting that a cooperative banking system should be set up in Latin America to further cooperative development.

74. Rao, B. Prasada, "The Economics of Agricultural Credit Use in Southern Brazil." 1970, 161 p. Unpublished Ph.D. dissertation, Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210.

Study is based on 451 farm interviews conducted in 1966 in Southern Brazil. The economic returns from credit-sensitive inputs were examined. The author concludes that: (a) large farms have lower rates of returns on inputs purchased with credit than do small farms, (b) credit plays a major role in economic transformation, and (c) credit on small and large farms is not being used for consumption purposes. He also argues that increased credit to small farmers would result in high rates of return on investment.

75. Rask, Norman and Alan Reichert, "Distributional Problems of an Expanding Agricultural Credit Supply—The Case of Southern Brazil." April 1972, 16 p. Unpublished paper, Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210. ACTS No. 565.

The authors examine various distributional problems associated with the expansion of agricultural credit in Southern Brazil during the late 1960's. Their analysis is based on a sample of farm interviews conducted in 1965 and again in 1969. The authors suggest that the expansion of credit has failed to elicit a significantly wider range of participants in the formal agricultural credit markets. It appears that policies designed explicitly to favor small farm borrowers still result in a major portion of these funds eventually being absorbed by the larger farms.

76. Rask, Norman and Donald M. Sorensen, "Credit as a Means of Increasing Agricultural Productivity: A Brazilian Experience." Feb. 1968, 14 p. Unpublished paper, Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210. ACTS No. 282.

The authors evaluate the economic impact of a major fertilizer-credit program implemented in Southern Brazil during the mid-1960's. They analyzed the credit program in regard to program procedure, fertilizer use and productivity, credit utilization, operational efficiency and program social costs. They conclude that the program did significantly increase agricultural production but at an excessive cost to society. The program had only modest distributional effect in terms of spreading the adoption of new inputs (specifically fertilizer) and the concessional interest rates charged made the program costly from a social viewpoint.

77. Rask, Norman, "The Impact of Selective Credit and Price Policies on the Use of New Inputs." in *Development Digest*, April 1971, p. 49-54. ACTS No. 420.

The author suggests that a combination of input subsidies (via low-priced credit) plus substantial price supports have transformed many extensive cattle-grazing farms in Brazil into intensive mechanized crop operations. This transformation produced substantial increases in output and farm income. The availability of inexpensive credit seemed to play a key role in this transition process. On the smaller, more traditional farms, both credit utilization and modern input adoption lagged behind the changes taking place on larger mechanized farms. The results suggest that an uneven distribution of credit may be blocking a more uniform spread of increased productivity.

78. Reserve Bank of India, *All India Rural Credit Survey*. Vol. I, II and III. 1954-57. Reserve Bank of India, Bombay, India.

These volumes report on a comprehensive credit survey in India carried out in 1951. It included interviews with over one million rural families in 600 villages in 75 districts of the country. It presents comprehensive information on farm level sources of credit and on institutions handling credit. Also discusses policy alternatives.

79. Reserve Bank of India, *Report of the All-India Rural Credit Review Committee*. 1969, 1073 p. Reserve Bank of India, Bombay, India.

This volume presents information assembled by a credit review committee on agricultural credit in India. The committee worked during the period 1966 to 1969. Its main task was to review the supply of rural credit in the context of India's 4th Five Year Plan, and make appropriate recommendations. Reports on some interviews with farmers are given. Rural credit demand estimates are presented and credit institutions are reviewed. Strengthening the cooperatives in India to handle more credit is a major recommendation.

80. Robinson, Harry J. and Ato Mammo Bahta, *An Agricultural Credit Program for Ethiopia*. Report No. 9. Jan. 1969, 241 p. Prepared for the Technical Agency, Imperial Ethiopian Government, by Stanford Research Institute, Menlo Park, Calif.
ARC Catalog No. ET 332.71, S785a.

This report is part of an agro-industrial sector study carried out in Ethiopia from 1967 to 1969. The objective of the study was to design a comprehensive credit system for Ethiopia's agricultural sector. Study includes analysis of (1) present and potential credit needs, (2) credit institution problems, (3) suggested credit studies, and (4) sources of funds for credit institutions. Major recommendations are that several agencies be reorganized into an agricultural development bank, that a special credit program be initiated for subsistence farmers, that private rural banks be encouraged, and that greater emphasis be placed on credit unions, postal savings and agricultural cooperatives.

81. Roth, Herbert J., "Adaptation of Benefit-Cost Analysis to the Measurement of Performance of Agricultural Development Banks." 1968, 121 p. Unpublished Ph.D. dissertation, Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210.

This dissertation develops a benefit-cost model to evaluate the finance and development functions of a development bank. The author tested the model by evaluating the National Development Bank in Ecuador in terms of its impact on the gross income of 40 agricultural borrowers. He suggests that this type of model is superior to a traditional profit-oriented analysis of a bank's performance which is based solely on a bank's financial soundness.

82. Rozentel, Alek A., *Finance and Development in Thailand*. 1970, 370 p. Praeger Publishers, 111 Fourth Ave., New York, N.Y. 10003.

This book is based on research in Thailand carried out from 1965 to 1967. It attempts to achieve three objectives: (a) identify the role of financial intermediaries in economic growth, (b) provide a description and analysis of Thailand's financial markets, and (c) suggest ways planners might improve the performance of financial intermediaries in Thailand. Chapter 3 on the financing of rural households presents a good deal of information on Thailand's rural credit market. The author concludes that the banking system currently transfers rural savings to the urban sector and that additional competition in rural money markets would be desirable.

83. Sansom, Robert L., *The Economics of Insurgency in the Mekong Delta of Viet Nam*. 1970. Massachusetts Institute of Technology Press, Cambridge, Mass. 02139.
ACTS No. 190.

Pages 104-122 of this book are devoted to an examination of the characteristics of agricultural lending in the Mekong Delta of Viet-Nam during the 1958-1967 period. The author discusses the various purposes for which funds are borrowed, the terms associated with various types of lending, and the characteristics of the most common sources of capital. He concludes that the average interest rate in real terms is not unreasonable considering the large risk. He reports that the level of indebtedness rose during the study period, with the vast majority of the borrowed funds going for investment expenditures. The author also reports that traditional sources of credit are important. These include moneylenders, relatives, and a local "cooperative-bidding" society (called Hui) which plays an important part in meeting the needs of a diverse set of local lenders and borrowers.

84. Sarmago, C. S., "The Agricultural Credit Administration." Jan. 1972, 45 p. Unpublished report prepared for the Committee on Agricultural Credit Systems in the Philippines, Department of Agriculture and Natural Resources, Manila, Philippines.

This report provides historical background on the Agricultural Credit Administration (ACA) in the Philippines and includes a description of administrative machinery, related government policies, and loaning operations. An appraisal of ACA's attempts to provide credit to small farmers is also presented. Problems with low repayment rates by farmers are emphasized. A major recommendation of the paper is that credit and marketing activities now handled by the cooperatives should be separated.

85. Servicio Tecnico Agrícola Colombiano Americano (STACA), "Credito Agrícola y Cooperativas." Circa 1962, 12 p. Unpublished report prepared for STACA, Bogota, Colombia. (In Spanish and English)
ARC Catalog No. CO 332.71, S491a.

This paper reports on a small pilot supervised credit program initiated in Colombia in 1960 involving 45 small-scale farmers. A total of 128 loans, largely for cotton production, were made to these farmers, about one-quarter of whom were interviewed to test their reactions. The responses were very favorable. This pilot project was later expanded into a nationwide supervised credit program.

86. Shahjahan, Mirza, *Agricultural Finance in East Pakistan*. 1968, 248 p. Asiatic Press, Dacca, Pakistan.

This book presents a summary of interviews with 2,500 farmers and 100 bank officers in East Pakistan carried out in 1962-63. The basic aim was to describe the operation of the institutional credit system. Conclusions drawn were: (1) most bank loans go to owners of land, (2) real costs of institutional loans are not much lower than of loans from informal sources, (3) credit for cattle purchase was very important, (4) cooperative credit has default problems, and (5) cooperatives have made little effort to attract savings deposits.

87. Sharanappa, S., *Rural Credit and Economic Development*. 1969, 48 p. Rao and Raghavan, Mysore, India.

This study was based on 175 farm interviews in India. It examines the agricultural credit supply and concludes that credit institutions do not play a vital economic development role in India. The author criticizes poor handling of defaults, bad timing of loans, and lack of strong cooperatives. He sees better selection and training of administrators as prerequisite for an improved program. Also proposes formation of an agricultural finance corporation, and regulation of moneylenders who, he feels, are exploiting small farmers.

88. Simonsen, Mario Henrique, "The Problem of Interest Rates in Brazil," in *Bolsa Review*, Dec. 1967, p. 648-656.
ACTS No. 356.

In Brazil outdated usury laws and various contractual regulations, coupled with a consistently high rate of inflation, have produced substantial negative real rates of interest. The ensuing capital and credit market disequilibrium has forced the commercial banking system to readjust their lending and pricing policies to accommodate these market distortions. Judging by the banks' profitable position, this adjustment has been fairly effective. The author is concerned that the financial system will have difficulty readjusting to stable prices as inflation is brought under control. He foresees serious credit problems

unless interest rates decline during the adjustment process. In contrast to the commonly proposed short-run solution of increasing the money supply, a more permanent solution would require a strong effort to contain public expenditures.

89. Singh, Baldev, "Agricultural Capital Formation in Thanesar, Haryana," in *Agricultural Situation in India*, Vol. XXIV, Dec. 1969, p. 823-826. ACTS No. 335.

Through the use of regression analysis, the author identified those economic factors which have the greatest influence upon farm investment. The analysis, based upon Indian data, is split into large farms and small farms. The author examines the validity of the hypothesis that borrowing often finances consumption and that investment priorities differ between large and small farms. His findings suggest that on small farms credit has a great influence upon investment although some consumption financing does take place. In addition, small farms were primarily interested in land-saving investments (e.g. irrigation facilities), while the larger farms invested more heavily in labor-saving projects such as farm equipment.

90. Sorenson, Donald M. and Norman Rask, "An Evaluation of the CNCR Fertilizer Loan Program in Brazil." AFC Research Report 118. Dec. 1967, 37 p. Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210. ACTS No. 105.

Study reports on a 1966 evaluation of an AID-sponsored fertilizer loan program for farms in Southern Brazil. Objectives of the study were to determine how fertilizer use, crop production and fertilizer sales procedures changed as a result of the loan. Interviews with 268 farmer-borrowers plus some fertilizer dealers provided data for the study. Conclusions were that fertilizer use increased along with crop production, but that only a few additional farmers used fertilizer for the first time as a result of the program.

91. Stansbury, Dale Lee, "Factors Affecting the Delinquency of Agricultural Credit in Peru." 1967, 172 p. Unpublished M.S. thesis, Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210.

The author focuses on delinquency rates among agricultural borrowers in Peru in the mid-1960's. He found that delinquency not only reduces funds available but creates an environment in which there are no incentives to repay loans. The author blames delinquency on factors unrelated to the economic viability of the farmer (his attitudes and the attitudes of the community). He recommends closer supervision and more stringent loan collection procedures by the banking institutions.

92. Stitzlein, John N., "The Characteristics and Significance of the Non-Institutional Credit Market in Rural Ecuador." 1967, 85 p. Unpublished M.S. thesis, Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210.

This thesis reports on results from two sets of surveys among 1,062 farmers and 156 suppliers of non-institutional credit in various parts of Ecuador during 1965 and 1966. The study focused on describing the extent and nature of non-institutional rural credit services, and determining the contributions these services made to the economic well-being of borrowers. Conclusions were that non-institutional credit largely serves a different set of demands than bank credit, and that non-institutional credit in Ecuador served a very useful economic function.

93. Tablante, N. B., "Implications of Credit Institutions and Policy for Savings and Capital Accumulation in Philippine Agriculture," in *Philippine Economic Journal*, Second semester, 1964, p. 208-225.
ACTS No. 063.

A description of the rural agricultural credit system in the Philippines is given in this article. The author draws from a number of farm-level studies carried out during the 1950's to describe the credit system. He stresses the importance of the non-institutional credit market, high rates of interest, the use of loans for consumption purposes, and lack of savings in rural areas. The author concludes by suggesting that more extensive use of supervised credit may be the answer to credit problems in the rural Philippines.

94. Thirumalai, S., "Rate of Interest in Reorganization of Rural Credit," in *Indian Journal of Agricultural Economics*, Vol. 11, April-June 1956, p. 103-112.
ACTS No. 044.

The author describes some of the unique economic problems characteristic of low-income agriculture. He concludes that marginal returns to capital, as reflected in a competitive interest rate, are a poor device for directing capital adjustments. However, he does agree that cheap credit undermines efforts to build effective and stable financial systems in these areas.

95. Thisyamondol, P., V. Arromdee and M. Long, *Agricultural Credit in Thailand: Theory, Data, Policy*. June 1965, 70 p. Kasetsart University, Bangkok, Thailand.
ACTS No. 196.

This study analyzes the agricultural credit situation in Thailand prior to 1965. It is based on 742 farm interviews. The report deals with the theoretical aspects of farm credit and provides a detailed description of the sources and terms of loans to agriculture within the country. The study concludes that the supply of credit can most effectively be increased by raising the rate of interest to reflect

more closely current risk and capital scarcity conditions. At the same time, funds should be directed toward those farms that can most productively utilize credit, and should not be distributed as an indirect income subsidy.

96. Tinnermeier, Ronald, "An Evaluation of Selected Supervised Agricultural Credit Programs in Peru." June 1968, 216 p. Unpublished report submitted to the Peru Mission of the Agency for International Development, Lima, Peru. ACTS No. 36.

Study presents background on AID-assisted agricultural credit programs in Peru, and results from farm-level surveys of a number of supervised credit borrowers. Conclusions were that default rates were much too high on loans, that loans to non-viable farms had been made, that there was lack of coordination between the banking service and extension activities, and that credit use was not sharply increasing farmers' output.

97. Tinnermeier, Ronald, "Supervised Credit and the Small Farmer." Sept. 13-15, 1971, 30 p. Unpublished paper presented at the Seminar on Small Farmer Development Strategies, Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210. ACTS No. 386.

This paper reviews the history, achievements and limitations of Peru's supervised agricultural credit program during the 1960's. The study concludes that the credit program has not been very successful in raising farm productivity levels. The author feels that many farmers did not have sufficient resources to use credit profitably, and appropriate technology for increasing productivity was not available. Program objectives were also poorly defined.

98. Tommy, Joseph Lissa, "Credit Use and Capital Formation on Small to Medium Sized Farms in Southern Brazil, 1965-1969." 1971, 93 p. Unpublished M.S. thesis, Department of Agricultural Economics, and Rural Sociology, Ohio State University, Columbus, Ohio 43210.

Thesis analyzes changes in credit use between the years 1965 and 1969 for 289 Brazilian farmers with less than 50 hectares of land. Study found that the amount of non-institutional credit used dropped during the period studied, while use of bank credit went up by two and a half times. Less than 10 percent of the farmers, however, absorbed over half of the increase in bank credit. The author concludes that only a relatively few small-to-medium-sized farmers became new borrowers in spite of the substantial increase in availability of bank credit to agriculture.

99. Tuck, R. H., "A Reconsideration of the Theory of Agricultural Credit," in *Journal of Agricultural Economics*, June 1956, p. 20-40. *Memorandum* ACTS No. 555.

The author contends that the distribution of the national capital stock into units of use (production units) is a process that cannot properly be described by generalized optimization models. Variation in management ability among farm operators is such that institutions must decide on an individual basis how capital can be used effectively. The distribution of resources can only approach an optimum if individual management qualities are taken into consideration. The author concludes that informal credit sources or specialized agricultural banks are an important element in this process.

100. Tyson, Chester, J., Jr., "Agricultural Credit for African Farmers." Dec. 1960, 16 p. Unpublished report prepared for the International Cooperation Administration, Washington, D.C. ARC Catalog No. AFR 332.71, T994.

The purpose of this report was to review existing and proposed credit systems in Africa and to determine those best suited to current conditions. The author found that most African farmers have inadequate credit, they do not fully appreciate the need to repay loans, land tenure problems block credit use, and farmers have little opportunity to practice thrift. The need for promotion of thrift, credit education, supervised credit, and loans through cooperatives is stressed.

101. United Nations, *Memoria del Seminario Centroamericano de Credito Agricola*. Three volumes. 1954. United Nations, Mexico City. (In Spanish)

These volumes present a discussion of a number of issues related to rural credit in Central America which came out of a 1952 conference. An overview of credit programs is also presented. The final volume presents a summary of credit legislation in Central America as of the early 1950's.

102. USAID/Pakistan, "Agricultural Credit in Pakistan." Circa 1966, 19 p. Unpublished report prepared for USAID/Pakistan. ARC Catalog No. PK 332.71, S274.

This paper presents an overview of institutions providing agricultural credit in Pakistan in the mid-1960's. Report argues that credit supplies are very short, there are too few credit institutions to service agriculture, and that the amount of credit must be sharply increased to meet growth requirements. Several new credit programs are suggested.

103. Von Gersdorff, Ralph, "Agricultural Credit Problems in Brazil," in *Indian Journal of Economics*, Vol. XLI, No. 161, Oct. 1960, p. 151-171.
ACTS No. 040.

The author presents an institutional and legislative description of rural credit programs in Brazil. He notes that agricultural credit is heavily concentrated in Southern Brazil. He considers agricultural credit to be necessary for a mechanization program and goes on to recommend that the formal banking system develop more specialized rural credit institutions and hire staff who are sensitive to local opportunities for stimulating private savings and investment.

104. Wai, U Tan, "Interest Rates Outside the Organized Money Markets of Underdeveloped Countries," in *International Monetary Fund Staff Papers*, 1957-58, Vol. 6, p. 80-142.
ACTS No. 178.

The author describes unorganized money markets in less-developed countries. Sources of institutional and non-institutional credit are examined and the linkages between these markets are explored. The last portion of the paper presents empirical evidence on the level and structure of rural interest rates. The author concludes that the two credit markets are basically separate in terms of sources and uses of funds. An effective program to reduce interest rates must curb demand by reducing conspicuous consumption and by increasing savings.

105. Wai, U Tan, "Interest Rates in the Organized Money Markets of Under-developed Countries," in *Staff Papers of the International Monetary Fund*, Vol. 5, 1956-57, p. 249-278.
ACTS No. 78.

This article presents an overview of organized money markets and the level and structure of interest rates in about 40 countries. It also discusses the influence of central bank policies on general interest rates, and the historical fluctuations in interest rates. The conclusion is that the long-term trend of interest rates in less-developed countries is downward.

106. Wharton, C. R., Jr., "The ACAR Programme in Minas Gerais, Brazil," in *Change in Agriculture*, A. H. Bunting (ed.). Gerald Duckworth and Co., London. 1970, p. 525-532.
ACTS No. 463.

The author reviews the major accomplishments of a rural credit program (ACAR) conducted in the state of Minas Gerais, Brazil, since 1948. The program was originally designed to attack two major problems confronting small farmers: i.e., limited access to both credit and modern technology. The author concludes that the program has succeeded in significantly increasing the level of output and income for participating small farms.

PART II. RURAL SAVINGS

107. Anderson, Robert T., "Rotating Credit Associations in India," in *Economic Development and Cultural Change*, Vol. 14, April 1966, p. 334-329.
ACTS No. 299.

This article describes various types of rotating credit associations in Andhra Pradesh, India. It also discusses the potentials of such associations for introducing participants to modern business practices. Field work was carried out in urban and rural areas near Hyderabad in 1962. The author concludes that such associations are very popular in India and that their goals are mainly economic.

108. Ardener, Shirley, "The Comparative Study of Rotating Credit Associations," in *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, Vol. 94, Part 2, July to Dec. 1964, p. 201-229.
ACTS No. 506.

Article presents a review of studies on rotating credit associations, an association formed around a core of participants who agree to make regular contributions to a fund which is allocated in whole or in part to each contributor in rotation. The author reports that these associations are located throughout many parts of the world, and that they are an important way of mobilizing savings.

109. Bernstein, Edward M., "The Development of a Capital Market in Central America." Circa 1965, 100 p. Unpublished report prepared for the Central American Bank for Economic Integration. Apar-Tal #772, Tegucigalpa, Honduras. ARC Catalog No. 332, B531.

Paper argues that an effective capital market in Central America is necessary to accelerate the flow of savings into productive investment. Discussion focuses mainly on securities as a means of mobilizing these savings. The author recommends a uniform set of security regulations in all five countries as a first step in developing a capital market.

110. Blumenthal, Tuvia, *Saving in Postwar Japan*. 1970, 117 p. Harvard University Press, Cambridge, Mass. 02138.

Study focuses on patterns of savings in postwar Japan. It evaluates the relationship between savings and income, and also looks at the role of the demonstration effect. Conclusions are that: (1) Japanese households had high rates of voluntary savings, (2) periodic bond payments appeared to be related to higher rates of saving, and (3) voluntary institutional savings were an important part of over-all savings.

111. Bradley, Thomas, "Preliminary Report on Feasibility of Establishing Savings and Loan Associations in Taiwan, the Philippines, and Thailand." April 23, 1964, 65 p. Unpublished paper prepared for AID/Washington by the International Program, National League of Insured Savings Associations. ARC Catalog No. TW 332.32, B811.

Study focuses on the money market in Taiwan and possibilities for developing savings and loan associations which could finance private housing. High interest rates charged by savings and loan associations are suggested as a major stumbling block to private housing development.

112. Brake, John R., "Firm Growth Models Often Neglect Important Cash Withdrawals," in *American Journal of Agricultural Economics*, Vol. 50, No. 3, August 1968, p. 769-772. ACTS No. 540.

The author argues that social security contributions, tax payments and farm family consumption must all be included in an analysis of farm firm growth. The author proposes that consumption function analysis in combination with social security and income tax considerations will help to determine better the amounts of internal resources available for farm reinvestment.

113. Christoffersen, Leif E., "Interest Rates and the Structure of a Commercial Banking System Under Inflationary Conditions: A Case Study of Brazil." Economics Department Working Paper No. 26, revised. Oct. 28, 1968, 34 p. International Bank for Reconstruction and Development, 1818 H St., N.W., Washington, D.C. 20433. ACTS No. 214.

Paper analyzes Brazil's commercial banks over the period 1951-66. The study is based on a sample of 21 banks. Author observed a doubling in the number of branch offices while the ratio of deposits-to-GNP has remained stable. Under inflation, bank earnings kept pace with costs by increasing service fees and commissions. The banks have not competed for deposits and have kept interest rates on deposits low. Author concludes that interest rate adjustments to inflation could have mobilized considerably more savings.

114. Congress of the United States, Joint Economic Committee, Subcommittee on Inter-American Economic Relationships, *Thrift Institution Development in Latin America*. 1970, 92 p. U.S. Government Printing Office, Washington, D.C. 20402. Price 40 cents. ACTS No. 122.

This congressional study summarizes credit union activities in Latin America during the 1960's. The obstacles which have impeded growth in savings and loan associations and credit unions receive major attention. Information is presented on seven country case studies: Bolivia, Chile, the Dominican

Republic, Ecuador, Peru, El Salvador and Brazil. By 1968 these savings institutions had two million members and deposits of \$127 million dollars. The main conclusion was that increased technical and managerial skills are necessary to stimulate further expansion.

115. CUNA International Inc., *Fourth African Conference on the Mobilization of Local Savings*. 1965, 146 p. CUNA, Madison, Wisconsin.
ARC Catalog No. AFR 332.3, C111a.

This conference, held in Nairobi, Kenya, was the fourth savings conference held in Africa since 1963. This report contains brief statements by various country representatives on the progress of their credit unions' development. Some policy suggestions are also presented.

116. Dean, Gerald and Michele De Benedictus, "A Model of Economic Development for Peasant Farms in Southern Italy," in *Journal of Farm Economics*, Vol. 46, No. 2, May 1964, p. 295-312.
ACTS No. 548.

This article deals with the development process on peasant farms in a newly irrigated area of southern Italy in which land reform was carried out. Study focuses on how rapidly savings and investment can be internally generated on the farms. The authors develop a model which suggests substantial potential for internal savings and investment by peasant families.

117. Emery, Robert F., "The Korean Interest Rate Reform of September 1965." Oct. 3, 1966, 15 p. Unpublished paper, Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C.
ACTS No. 114.

Paper presents a case study of Korea's 1965 experiments with higher interest rates on financial assets. It briefly describes the objectives, the specific measures taken, and the early results of the program. The author concludes that the interest rate reform was highly successful in moving private savings into financial institutions.

118. Ferreiro, Jose Antonio et al., "The Financing of the Chilean Savings and Loan System." 1965, 78 p. Unpublished manuscript, Instituto de Administracion de la Universidad de Chile, Santiago, Chile.
ARC Catalog No. CI 332.32, F382.

This study stresses the importance of savings and loan associations in financing private dwellings. It describes the operations of these associations in Chile during the early 1960's, and also discusses various sources of funds which did or could add to the associations' portfolios. In May 1962 only 36 percent of

the funds used by the associations came from savings deposits. The authors conclude that associations should increase members' deposits by making saving easier and more financially attractive. They also suggest a saving-by-mail plan.

119. Frank, Charles R., Jr., "Some Reflections on Income and Employment Projection Techniques," in *Economic Bulletin for Asia and the Far East*, Vol. 20, No. 3, Dec. 1969, p. 1-6.
ACTS No. 508.

Article focuses on models used to analyze savings-investment gaps and trade gaps. The author feels that rapidly growing countries have high marginal savings rates and that this may largely offset trade gap problems.

120. Friedman, Milton, "The Permanent Income Hypothesis," p. 141-158 in *Macroeconomic Theory: Selected Reading*, edited by H. R. Williams and John D. Huffnagle. 1969. Appleton-Century-Crofts, 440 Park Ave. South, New York, N.Y. 10016.
ACTS No. 547.

The author presents a brief summary of his permanent hypothesis: that consumption is differentially influenced by income thought to be permanent and that thought to be transitory. The author also briefly discusses various empirical models which might be used to test this hypothesis.

121. Friend, Irwin and Irving B. Kravis, "Entrepreneurial Income, Saving and Investment," in *The American Economic Review*, Vol. 47, No. 3, June 1957, p. 269-301.
ACTS No. 515.

This article reviews the current state of knowledge regarding the savings and investment behavior of unincorporated, non-farm entrepreneurs in the U.S. The authors point out that 80% of total nongovernmental savings in the U.S. in the early 1950's was provided by business units. Authors suggest that entrepreneurs have higher savings propensities than non-entrepreneurs.

122. Friend, Irwin and Paul Taubman, "The Aggregate Propensity to Save: Some Concepts and Their Application to International Data," in *The Review of Economics and Statistics*, Vol. 48, May 1966, p. 113-123.
ACTS No. 507.

This paper has two objectives: (1) to present new techniques for determining the propensity to save, and (2) applying these techniques to time-series data to obtain propensities to save from personal disposable income. Two major issues are addressed: how do transitory and normal income affect savings, and how do initial and desired asset values affect savings? Empirical results from analysis of 1953-1960 savings data from 22 countries are presented. The authors conclude that asset effects and type-of-income effects are important in explaining savings.

123. Friend, Irwin, "The Propensity to Consume and Save in Argentina," Dec. 1966, 24 p. Unpublished manuscript, Instituto Torcuato di Tella, Centro de Investigaciones Economicas, Buenos Aires, Argentina.
ARC Catalog No. 339.4, F911.

Author reviews various studies of household consumption functions in Argentina and suggests some improved approaches for measuring the consumption function. He suggests that consumption behavior is determined by the utility of present versus future consumption, the rate of return on investment, the desired stock of assets, and risk preferences on protecting consumption against undue income variations. He also discusses the advantages of using time series and cross-sectional data for consumption analysis. The author concludes that the marginal propensity to consume in Argentina in the mid-1960's was close to .75.

124. Geertz, Clifford, "The Rotating Credit Association: A Middle Rung in Development," in *Economic Development and Cultural Change*, Vol. 10, No. 3, April 1962, p. 241-263.
ACTS No. 203.

Article discusses importance of rotating credit associations in Africa and Asia. The author concluded that these institutions are widespread and that they provide a useful socializing function in the development process. He sees these associations as a transitional step from traditional economies to economies which have highly integrated financial systems.

125. Gupta, K. L., "Household Savings in Financial Assets—A Case Study of India," in *Indian Economic Journal*, Vol. 17, April-June 1970, p. 500-514.
ACTS No. 421.

Study examines the determinants of household savings in financial assets in India. Author evaluates the role of permanent and transitory income, internal terms of trade, inflation, interest rates, and wealth. He concludes that permanent income and interest rates are quite important in determining financial savings.

126. Gurley, John G. and E. S. Shaw, "Financial Structure and Economic Development," in *Economic Development and Cultural Change*, Vol. 15, No. 3, April 1967, p. 257-268.
ACTS No. 066.

The main focus of this article is on methods for choosing among various financial techniques to mobilize an economic surplus. The authors show that financial structures become more important as a country becomes richer. This is largely due to division of labor between savings and investment activities. Study concludes with suggestions of how to select among four techniques for mobilizing savings: (1) self-financing, (2) taxation, (3) debt-asset system, and (4) savings from abroad.

127. Halpern, Joel M., "Capital, Savings and Credit Among Lao and Serb Peasants: A Contrast in Cultural Values." March 1961, 12 p. Unpublished paper, Department of Anthropology, University of California at Los Angeles, Los Angeles, Calif. 90024.
ARC Catalog No. LA 332, H195.

Paper presents a brief comparative discussion of forms of capital investments, savings patterns and credit use by peasants in Laos and Serbia.

128. Holmes, D. N., Jr., "The Economic Nature of the Credit Union and Its Role in Rural Credit Reform: A Case Study of Venezuela." 1969, 166 p. Unpublished Ph.D. thesis, University of California at Los Angeles, Los Angeles, Calif. 90024.
ACTS No. 332.

Study is based on four credit unions in Venezuela which primarily service subsistence farmers. The credit unions were found to be sensitive to local problems and had low administrative costs and low default rates. Liquidity problems, however, were limiting their effectiveness. This was due to the conflicting objectives of low interest rates on loans and adequate returns on savings. The author concludes that federal money is required to solve the liquidity problem and achieve development objectives.

129. Houthakker, H. S., "On Some Determinants of Saving in Developed and Under-Developed Countries," p. 212-227 in *Problems in Economic Development*, edited by E. A. G. Robinson. 1965, MacMillan and Co., London.
ACTS No. 564.

The main focus of this paper is on whether or not savings increase more than proportionately to income changes. Author analyzes aggregate consumption-savings information for 28 countries published by the United Nations. The data cover 1953-1959. Author concludes that personal savings appear to be proportional to disposable personal income, that income changes were a significant determinant of savings, and that short-term savings rates were much higher than long-term rates.

130. Irvine, J. Reed and Robert F. Emery, "Interest Rates as an Anti-Inflationary Instrument in Taiwan," in *The National Banking Review*, Vol. 4, No. 1, Sept. 1966, p. 29-39.
ACTS No. 096.

During the early 1950's, the Chinese Government found heavy taxation in Taiwan politically unpopular as a means of countering inflation. The Government therefore sponsored preferential savings deposits which carried high nominal rates of interest. These rates were highly successful in withdrawing the excess liquidity from the economy, defeating the inflationary psychology as the price level stabilized and re-establishing public confidence in private savings and investment.

131. Joshi, Madhusudan, "The Role of Contractual Savings in Mobilization of Savings." Economics Department Working Paper No. 80. June 18, 1970, 20 p. International Bank for Reconstruction and Development, Washington, D.C. 20433.
ACTS No. 206.

This paper addresses the question of whether increased contractual savings are likely to reduce other forms of savings, or to represent net increases in household savings. Policies which influence the level and allocation of household savings are also treated. Author reviews savings data for a number of countries. He concludes that growth in contractual savings can augment total savings, and that among low-income groups, changes in the composition of savings will compete with consumption.

132. Joshi, V. H., "Saving Behaviour in India," in *Indian Economic Journal*, Vol. 17, April-June 1970, p. 515-526.
ACTS No. 422.

Paper analyzes saving behavior in India from 1950 to 1963. Particular attention is paid to the relationship between changes in income and changes in savings. The author found that three-quarters of Indian savings were generated at the household level. He also calculates that the marginal savings rate out of additional income for the entire economy was close to 20 percent. Major conclusions are that more rural savings could be mobilized if suitable institutions were available.

133. Kato, Yuzuri, "Mechanisms for the Outflow of Funds from Agriculture into Industry in Japan," in *Rural Economic Problems*, Dec. 1966, p. 1-20.
ACTS No. 289.

This article documents the flow of rural voluntary savings into the non-agricultural sector of Japan from 1912 to 1960. The author points out that because of liquidity and safety preferences, rural savers preferred to deposit savings in banks rather than purchasing stock securities. Some recent shifts in investments toward stocks have been noted.

134. Kelley, Allen C. and Jeffrey G. Williamson, "Household Saving Behavior in the Developing Economies: The Indonesian Case," in *Economic Development and Cultural Change*, Vol. 16, No. 3, April 1968, p. 385-403.
ACTS No. 059.

Article analyzes household savings information from 490 rural and urban interviews carried out in Indonesia in 1958 to 1959. Two major hypotheses are tested: (1) that source of income and occupation are major determinants of savings, and (2) that saving is a function of the age composition of the household. Study concludes that marginal savings by rural and urban

profit-seekers are higher than for wage earners, and that savings are higher the older the age composition of the household.

135. Lambert, Richard D. and Bert F. Hoselitz (eds.), *The Role of Savings and Wealth in Southern Asia and the West*. 1963, 432 p. UNESCO, Place de Fontenoy, Paris.
ARC Catalog No. FEA 339, U58.

Book focuses on people's attitudes toward savings and wealth in western societies and in Ceylon, Hong Kong, India, Malaya, Pakistan, the Philippines and Viet Nam. The relationship between wealth and status receives special attention in most of the papers included in the volume. Editors conclude that it is not the differences in national character which account for the differences in attitudes toward wealth; rather it is the differences in social institutions.

136. Lambert, Richard D., "The Social and Psychological Determinants of Savings and Investment in Developing Societies," p. 116-132 in *Industrialization and Society*, edited by Bert F. Hoselitz and Wilbert E. Moore. 1963. UNESCO-Mouton, New York.
ACTS No. 069.

The main purpose of this article is to discuss the importance of attitudes and cultural values in determining savings in Southeast Asia. Author assumes that there is little savings capacity in rural areas, and that religious and other cultural values sharply restrict the possibilities for mobilizing savings. He also places emphasis on family security and status. He concludes that profit maximization is highly circumscribed in this area by non-economic values.

137. Landau, Luis, "Brazil Saving: A Note." July 1969, 14 p. Unpublished Economic Development Report No. 137. The Center for International Affairs, Harvard University, Cambridge, Mass. 02138.
ACTS No. 055.

The main objective of this study was to re-evaluate the magnitude of aggregate savings ratios in Brazil for the period 1947-1964. Author concludes that the income-elasticity of saving in Brazil was greater than one, and that the decline in the savings ratios during part of the period was due to a binding trade constraint.

138. Lee, Teng-hui, *Intersectorial Capital Flows in the Economic Development of Taiwan, 1895-1960*. 1971, 197 p. Cornell University Press, Ithaca, N. Y. 14850.

The main focus of this book is on depicting the pattern of agricultural development which occurred in Taiwan, and measuring the net flow of capital out of the agricultural sector from 1895 to 1960. Estimates of net capital flows out of agriculture through various mechanisms for various periods of time are

presented. The author concludes that significant amounts of capital were transferred out of Taiwan's agricultural sector, in spite of growing rural population and generally rising farm incomes. The net outflow of capital, however, was also associated with substantial public and private investments in agriculture.

139. Lee, Warren F. and John R. Brake, "Conversion of Farm Assets for Retirement Purposes." Research Report No. 129. Jan. 1971, 12 p. Michigan Agricultural Experiment Station, East Lansing, Mich. 48823.
ACTS No. 538.

This publication is based on a study of retirement-age farm people in Michigan. Possible retirement alternatives are analyzed. Retirement objectives are seen as converting farm assets to sources of retirement income and selecting a portfolio of assets which will insure that the retiring farmer and his wife will have an adequate income throughout their remaining lifetimes. Capital losses from liquidating farm assets were found to amount to 15 to 40 percent of the value of farm assets for retiring farmers. Advantages and disadvantages of various types of investments are discussed.

140. Leff, Nathaniel H., "Marginal Savings Rates in the Development Process: The Brazilian Experience," in *The Economic Journal*, Vol. 78, Sept. 1968, p. 610-623.
ACTS No. 100.

Most development planners assume that the average savings ratio will rise during the process of economic development. Given the many policy measures employed by the Brazilian Government to stimulate savings and investment, Brazil provides an excellent case study to test this assumption. The data analyzed suggest that the average savings ratio has been quite stable or has declined slightly. The author presents several models which might explain this phenomenon. In addition, the movement toward greater equality of income distribution and higher levels of consumption may also help explain the failure of the savings ratio to rise.

141. Loganathan, C., *Development Savings Bank*. 1959, 147 p. Ceylonese National Council, International Chamber of Commerce, Colombo, Ceylon.
ARC Catalog No. FEA 332.2, L831.

The purpose of this book is to suggest an institutional device which can mobilize savings from low-income groups. Author proposes that a development savings bank be created in Ceylon to mobilize resources from low-income groups. These savings would include voluntary deposits, retirement funds paid in by employers and employees, tax rebates from the government for credit to taxpayers, and foreign assistance deposits. Funds would be lent for development purposes.

142. Mamalakis, Markos, "Negative Personal Savings in the Chilean National Accounts: An Artifact or Reality." Aug. 24, 1967, 53 p. Unpublished Discussion Paper No. 36. Economic Growth Center, Yale University, New Haven, Conn. 06520.
ARC Catalog No. CI 339.43, M263.

This essay attempts to determine the reliability of the national savings and investment accounts in Chile as of the mid-1960's, and to explain negative personal savings in the accounts. Author concludes that negative personal savings in national accounts of Chile have largely been a methodological artifact. He also feels that higher rates of interest on deposits are needed to induce private savings.

143. Marquez, Javier, "Financial Institutions and Economic Development," p. 168-200 in *Economic Development for Latin America*, edited by Howard S. Ellis and Henry C. Wallich. 1963. MacMillan and Co., London.
ACTS No. 045.

The structure of financial systems in Latin America and their appropriateness for fostering economic development are the main topics covered in this article. Author reviews general nature of various types of financial institutions and concludes that unspecialized banking facilities would be best for over-all development.

144. Miller, Roger F. and Harold W. Watts, "A Model of Household Investment in Financial Assets," p. 357-380 in *Determinants of Investment Behavior* by the National Bureau of Economic Research. 1967. Columbia University Press, New York, N.Y. 10027.
ACTS No. 057.

Authors present a model of household investments in financial assets. Long-range savings plans and shorter suboptimizing behavior with regard to portfolio changes are the main elements included in the model. The paper concludes with comments on the features of the model, and tentative hypotheses which the model might produce.

145. Mizoguchi, Toshiyuki, "Consumption Functions and Saving Functions for Japanese Farmers' Families in Post-War Japan," in *Rural Economic Problems*, Vol. 4, No. 1, Dec. 1967, p. 20-35.
ACTS No. 333.

This study is based on the results of the comprehensive Farm Household Economy Surveys in Japan. The author estimates time-series as well as cross-sectional savings functions by occupational groups. The analysis indicates that the net savings ratio of farm households is more volatile and lower than the corresponding ratio for worker households. One factor which seems to

explain such behavior is the increasing tendency toward part-time farming. Increases in the proportion of non-farm income were associated with rising savings ratios.

146. Nadda, N. L., *Capital Market in India*. 1965, 460 p. Bharati Shawan, Patna, India.

Given India's current commitment to pursue a path toward greater economic development, the author has analyzed the effects such a development plan is having and will continue to have upon the various capital markets within the country. The public and private sector capital flows are discussed as well as specific financial institutions within these sectors. The author concludes that while the private sector has largely fulfilled its planned objectives, it is the public sector which has lagged behind and is currently exerting increasing pressure upon the capital market. A balanced program of development requires the integration of the public and private capital markets.

147. Noda, Tsutomu, "Savings of Farm Households," p. 352-373 in *Agriculture and Economic Growth: Japan's Experience*, Kazushi Ohkawa et al. (editors). 1970. University of Tokyo Press, Tokyo, Japan.
ACTS No. 345.

Study presents a comparative analysis of saving behavior of farm operators and urban workers' households in Japan. Time-series as well as cross-section data are used in the analysis, mainly for the 1950's and early 1960's. Author found that (1) there was a clear difference in propensity to save related to farm size, (2) this was largely explained by the composition of income, and (3) he could find little difference between the average savings of farm and urban workers' households at similar income levels.

148. Panikar, P. G. K., *Rural Savings in India*. 1970, 179 p. Somaiya Publications, Bombay, India.

The major purpose of this book is to present estimates on the level of rural savings in India. Most of the information presented relates to the 1950's and early 1960's. A review of various studies of rural savings in India is also presented. The author concludes that rural families have higher marginal propensities to save than do their urban counterparts. He also stresses the need to mobilize these savings for developmental purposes.

149. Patrick, Hugh T., "Financial Intermediation in Japan." Unpublished Discussion Paper No. 70. July 31, 1969, 42 p. Economic Growth Center, Yale University, New Haven, Conn. 06520.
ARC Catalog No. JA 336.0952, P314.

Paper focuses on the role of financial intermediation in the postwar economic growth of Japan. Author discusses alternative sources for financing investment, the characteristics of the Japanese financial system, and the criteria for a good financial system in a development environment. Author concludes that high rates of personal savings, personal preference for financial assets, and high rates of business investment explain the favorable performance of Japan's financial system.

150. Penson, John B., Jr., "Demand for Financial Assets in the Farm Sector: A Portfolio Balance Approach," in *American Journal of Agricultural Economics*, Vol. 54, No. 2, May 1972, p. 163-174.
ACTS No. 554.

Article analyzes the interrelationships in the farm firm among demand for various types of financial assets, unused credit reserves, and physical assets. Author presents a model for estimating these relationships and applies it to 1948-1970 U.S. data. He concludes that there is substitution among the various elements in farmers' financial and asset portfolios and that farmers respond positively to increases in interest on time savings deposits.

151. Ramanathan, R., "Measuring the Permanent Income of a Household: An Experiment in Methodology," in *Journal of Political Economy*, Vol. 79, No. 1, Jan./Feb. 1971, p. 177-185.
ACTS No. 545.

This paper discusses the problem of estimating the permanent income of a household from data pertaining to a single year. Data from 500 Indian households surveyed in 1959 are used in the analysis. Author suggests that use of expected future income, differences in wealth, and number of earners in family help to estimate permanent income better.

152. Ranis, Gustav, "Mobilizing Private Savings for Regional Investment." 1967, 26 p. Unpublished paper presented at Conference on Regional Development Planning held in Barranquitas, Puerto Rico, March 29-31, 1967.
ARC Catalog No. 339.43, R197.

Author focuses on two main issues of savings mobilization: motivational aspects and channelization aspects. He also traces through the changes in form which savings take with development. He argues that governments often have to "get out of the way by reducing controls and changes in policy so that savings can be mobilized."

153. Rawat, P. L., "Mobilizing Rural Resources and Incentives to Save and Invest." Circa 1969, 69 p. Unpublished paper, Department of Economics, Lucknow University, Lucknow, India.
ARC Catalog No. IN 339.41, R257.

Author reviews problems of rural resource mobilization in India during the 1950's and 1960's. He begins by reviewing some Indian studies of household savings and discusses alternative measures to mobilize surpluses, such as taxation, price differentials and savings. He argues that a progressive surcharge on land taxes would be an efficient way to mobilize capital. He also stresses that voluntary savings should be encouraged by higher interest rates, stronger savings institutions, and tax incentives for savings.

154. Rozental, Alek A., "Prospectus: Development Planning and the Mobilization of Voluntary Savings in Thailand." Dec. 1967, 22 p. Unpublished paper No. M 9202. Center for Development Planning, National Planning Association, Washington, D.C. 20009.
ARC Catalog No. TH 332, R893.

Paper presents a preliminary discussion of issues related to financial capital markets in Thailand. Author argues that organized capital markets ought to play a larger role in Thailand and also provide more competition for un-organized markets.

155. Shinohara, Miyoehei, "The Structure of Saving and the Consumption Function in Postwar Japan," in *The Journal of Political Economy*, Vol. LXVII, No. 6, Dec. 1959, p. 589-603.
ACTS No. 316.

The author studies the changes in postwar savings and consumption habits between rural and urban Japanese households. A number of statistical models and behavioral hypotheses were tested on a cross-sectional and time-series basis. The researcher concludes that previous differences in the saving functions between urban and rural producers should decline in the near future. The data indicate that the savings ratios from individual proprietors' and property-owners' incomes are very high. He attributes this to either high internal investment or to the large transitory-to-permanent-income ratio. Finally, differences in time-series and cross-sectional marginal propensity to save estimates are largely attributed to the differential impact of transitory income.

156. Singh, I. J., "The Consumption Behavior of Peasant Households: A Case Study of Punjab, India." Economics and Sociology Occasional Paper No. 45. Nov. 1971, 54 p. Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio.
ACTS No. 406.

This study estimates peasant household consumption functions for five subsistence crops in Punjab, India. Data from farm family budgets, 1954 to 1965, are used in the analysis. Author concludes that family size and total volume of farm output are the most important factors in determining subsistence consumption. He found that cash income played little or no part in subsistence consumption.

157. Suits, Daniel B., "The Determinants of Consumer Expenditures: A Review of Present Knowledge," p. 59-92 in *Macroeconomics: Selected Readings*, edited by Walter L. Johnson and David R. Kamerschen. 1970 Houghton Mifflin, 2 Park St., Boston, Mass. 02107.
ACTS No. 553.

Author reviews major elements of consumption theory, including classical theory, Keynes' contribution, and post-Keynesian additions. Article also summarizes empirical results of consumption research in the U.S. and presents a substantial bibliography on the subject.

158. Tagumpay-Castillo, Gelia, "Sociological Factors in Savings and Capital Accumulation: Some Research Findings," in *Philippine Economic Journal*, Second semester 1964, p. 189-197.
ACTS No. 068.

Paper analyzes the relationship between family and community factors and the process of savings and capital accumulation in the Philippines. The role of the extended family, the wife as a family financial agent, and community values are stressed. Several hypotheses are suggested which follow from the discussion.

159. United Nations, "Measures for Mobilizing Domestic Saving for Productivity Investment," in *Economic Bulletin for Asia and the Far East*, Vol. 13, No. 3, Dec. 1962, p. 1-26.
ACTS No. 516.

Paper analyzes the structure of savings in seven Asian countries: Japan, Malaya, Taiwan, Ceylon, the Philippines, South Korea and India. Direct estimates of savings from 1955 to 1959 are used in the analysis. Data show that between one-half and two-thirds of total gross savings comes from the household sector. Voluntary savings account for 70 to 90 percent of household savings in the countries studied. Information on the institutions which service the capital markets, interest rate policy, and non-institutional money markets is also presented.

160. United Nations, "Saving in the Philippine Economy, 1951-1960," in *Economic Bulletin for Asia and the Far East*, Vol. XIII, No. 2, Sept. 1962, p. 1-22.
ACTS No. 517.

Article inquires into the level, rate, composition and sources of saving in the Philippines during the 1950's. It argues that the national accounts seriously underestimated household savings. Household savings were estimated in two ways: (1) by defining savings as net changes in household assets, and (2) by defining savings as income less consumption expenditures. Study concludes that household savings have made up one-half to two-thirds of total gross savings in the Philippines. Study also shows a change from tangible assets to financial assets in household accounts during the decade.

161. Villanueva, Delano P., "A Survey of the Financial System and the Savings Investment Process in Korea and the Philippines," in *Finance and Development*, Vol. 8, No. 2, June 1971, p. 16-19.
ACTS No. 376.

Author discusses the role of various financial systems in Korea and the Philippines during the 1950's and 1960's. He concludes that inflation combined with low interest rate policies in Korea prior to 1965 crippled the development of the financial sector. Price stability in the Philippines allowed more active financial intermediation.

162. Williamson, Jeffrey G., "Personal Saving in Developing Nations: An Intertemporal Cross-Section from Asia," in *The Economic Record*, June 1968, p. 194-210.
ACTS No. 056.

This paper presents a comparative analysis of some of the determinants of aggregate personal savings in Asia. It explores the influence on personal savings of (1) price and price expectation, (2) permanent and transitory income, (3) real rates of interest, and (4) distribution by source of income. Author concludes that savings are greater out of transitory than permanent income, and that savings from labor income are much lower than from non-labor income. The impact of interest rates was insignificant and that of price changes mixed. Over-all, the author concluded that the long-run marginal propensity to save in Asia was considerably higher than in advanced countries.

163. Wolf, Charles, Jr., "Savings Regressions, 'Self-Help' and Development Performance." July 1964, 27 p. Unpublished paper, the RAND Corporation, Santa Monica, Calif.
ACTS 229.

Study focuses on identifying those factors in the economy which explain aggregate savings performance. Linear and logarithmic regression models were used to analyze gross national product, degree of urbanization and level of international trade. Conclusions were that all three variables were quite important in explaining aggregate savings.

164. Yang, Lien-Sheng, "Buddhist Monasteries and Four Money Raising Institutions in Chinese History," in *Harvard Journal of Asiatic Studies*, Vol. 13, 1950, p. 174-191.
ACTS No. 505.

Author discusses four money-raising institutions which have had close connections with Buddhist temples and monasteries in Chinese history. These are the pawnshop, the mutual financing association, the auction sale and the sale of lottery tickets. Author points out the mutual financing associations

were known before the 10th Century. He concludes that Buddhist monasteries have provided favorable conditions for growth of financial institutions and have exerted considerable influence on the social and economic life of the secular world in China.

PART III SPRING REVIEW MATERIALS: SMALL FARMER CREDIT

AID administrators periodically select a subject on which they would like to review past AID policies and programs and the current situation in the less-developed countries. This review is a collaborative process involving AID staff members, host country officials, university specialists and representatives of international organizations. Agricultural credit, particularly as it applies to the small, low-income farmer, has been selected as the subject for the Spring Review of 1973.

The first activity in the Spring Review process is the preparation of country papers which describe and evaluate agricultural credit programs in selected countries. These reports are then reviewed by specialists who prepare analytical papers on some particular aspect of these programs. A unique feature of the 1973 Spring Review is that six workshops are to be held in the less-developed countries to provide a better opportunity for AID's country mission staffs, local government officials and scholars to participate directly in the discussions. The concluding conference will be held in Washington and a final paper on policy implications for AID will then be prepared. A book on small farmer credit is to be developed by Gordon Donald, Editor of the *Development Digest*.

The list of papers given below is very tentative. This preliminary list was judged the best way to indicate the broad scope of this activity. Eventually the papers will be combined in several volumes and made available from the National Technical Information Service. The latest information on the availability of these materials and their cost may be obtained by writing:

Office of Development Program Review
Bureau for Program and Policy Coordination
AID
Washington, D.C. 20523

COUNTRY PAPERS

AFRICA

- Ethiopia**
John M. Cohen
Haile Selassie I University
The Chilalo Agricultural Development Unit as a Program Intermediary for Foreign Assistance in Ethiopia
- Ethiopia**
Johan Holmberg
Swedish International Development Agency
SIDA-Assisted Chilalo Agricultural Development Unit (CADU) in Ethiopia
- Ghana**
Joseph B. Goodwin
USAID/Ghana and
Roger Selley
Harvard University, Development Advisory Service; and
Ministry of Finance
The Agricultural Development Bank of Ghana: Rice and Maize Schemes
- Ivory Coast**
Drouet
Agricultural Development Bank
BNDA Soudure Credit Schemes
- Ivory Coast**
Sam Nneby and
Edouard De Loisy
Institut Africain pour le
Development Economique
CENAPEC and the Agricultural Credit Coops
- Kenya**
J. D. Von Pischke, et al.
World Bank
Farm Credit in Kenya
- Kenya**
Peter Weisel
USAID/Kenya
Vihiga Maize Credit Scheme
- Morocco**
Norman Ulsaker
USAID/Morocco
Small-Farmer Credit Programs in Morocco

- Nigeria**
 A. Ijose
 University of Ibadan, and
 J. N. Abaelu
 University of Ife
**Institutional Credit for Smallholder
 Farmers: A Case Study of the Western
 Nigeria Agricultural Credit Corporation
 (WNACC)**
- Nigeria**
 Sylvester Ugoh
 Economic Development
 Institute, Enugu
**Small Holder Agricultural Credit
 in Eastern Nigeria**
- Sudan**
 Mohammed Hamid Abdullah
 American University, Beirut
Small Farm Credit in Sudan
- Tunisia**
 William F. Johnson
 USAID/Tunisia
**Agricultural Credit: The Local Mutual
 Credit Union System in Tunisia**
- Uganda**
 D. C. Frederickson
 Agriculture Cooperative
 Development Institute
 for USAID/Uganda
The Cooperative Credit Scheme: Uganda
- Zambia**
 R. A. J. Roberts
 FAO and University of
 Nottingham
**The Role of Money in the Development
 of Farming in the Mumbwa and Katete
 Areas of Zambia**
- ASIA**
- Afghanistan**
 Douglass G. Norwell
 USAID/Afghanistan
Small Farmer Credit in Afghanistan
- Bangladesh**
 Azizul Huq and
 M. Solaiman
 Bangladesh Academy for Rural
 Development, Comilla
Small Farmer Credit in Bangladesh
- China, Republic of (Taiwan)**
 D. W. Adams
 H. Y. Chen and
 C. Y. Hsu
 Ohio State University and the
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**Rural Capital Markets and Small Farmers
 in Taiwan, 1952-1972**

- India**
Michael Schluter
Indian Institute of Management
and Cornell University
The Role of Credit in Small-Farmer
Adoption of the New Cereal Varieties
in India
- India**
Sarojini, Abraham
Cooperative Credit for Small Farmers
in India
- Indonesia**
Achman, Abdur
Bank Rakyat Indonesia
Rural Credit in Indonesia
The BIMAS Program
- Iran**
Thomas Stickley and
Ebrahim Hosseini
American University, Beirut
The Supervised Agricultural Credit Pro-
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Bank of Iran
- Jordan**
Thomas Stickley and
Marwan Hayek
American University, Beirut
The Agricultural Credit Corporation
of Jordan
- Korea**
Robert B. Morrow and
Paul E. White
USAID/Korea
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- Malaysia**
Bank Pertanian Malaysia
(Agricultural Bank)
Short-Term Padi Production Credit Scheme
in the Muda Irrigation Project Area of
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- Philippines**
Orlando Sacay
Private Consultant
(a) Small Farmer Savings Behavior
(b) Small Farmer Credit in the Philippines
(c) Credit and Small Farmer Development
in the Philippines
- Philippines**
Douglas L. Tinsler
USAID/Philippines
A Comparative Study of the Development
of the Agricultural Credit Administration/
Cooperatives and the Central Bank/Rural
Bank Credit Systems
- Sri Lanka (Ceylon)**
Godfrey Gunatilleke et al.
Marga Institute, Colombo
The Cooperative System of Small Farmer
Credit in Sri Lanka

Thailand

Marcus D. Ingle
USAID/Thailand

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Turkey

Thomas Stickley and
Suha Satana
American University, Beirut

The Supervised Agricultural Credit Program of the Turkish Agricultural Bank

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Clifton G. Barton
Cornell University

Credit and the Small Farmer: Case Study of the Mekong Delta, South Vietnam

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Nguyen An Nhon
Agricultural Development
Bank of Vietnam

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Tom C. Royden
Utah State University,
Logan

A Review of Small Farmer Credit: Bolivia

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Richard Meyer, D. W. Adams,
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Ohio State University

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Chile

Charles T. Nisbet
Evergreen State College,
Olympia, Washington

Instituto de Desarrollo Agropecuario (INDAP)

Colombia

James Schwinden and
Gerald Feaster
U.S. Department of Agriculture,
Economic Research Service

The INCORA Supervised Credit Program

Colombia

Ronald L. Tannermeier
Colorado State University

Small Farmer Credit Activities of the Colombian Agricultural Bank (CAJA AGRARIA)

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Albert L. Brown
American Technical Assistance Corporation for
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- Agricultural Credit Project of the**
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Stanford University
- Small Farmer Credit in Costa**
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- The Directed Agricultural Credit Program**
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Puebla, Puebla
- Credit Among Small Farmers: the Case**
of the Puebla Project of Mexico

Mexico

**Colegio de Postgraduados,
Escuela Nacional de Agri-
cultura, Chapingo, Mexico**

**Fondo de Garantia y Fomento Para La
Agricultura, Ganaderia y Avicultura
(In English)**

Nicaragua

**R. Ramirez
National Bank of Nicaragua**

**Report on Credit to the Small Farmer
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Peru

**Ocravio Carranza
Ministry of Agriculture**

**Peruvian Case, Small Farmer
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ANALYTICAL PAPERS

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Millard F. Long Development Advisory Service, Harvard University	Conditions for Success
Rural Development Committee Cornell University	Culture and Credit
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Agricultural Supervised Credit: The
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Olympia, Washington

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