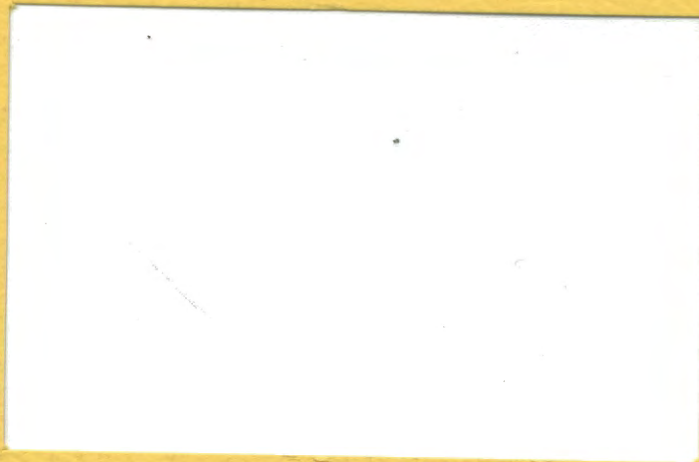


ESO 875

STUDIES IN RURAL FINANCE



AGRICULTURAL FINANCE PROGRAM



Department of Agricultural Economics and Rural Sociology

THE OHIO STATE UNIVERSITY

COLUMBUS, OHIO

43210

PAPERS AND DISCUSSION ON THE
CURRENT VIABILITY OF AGRICULTURAL
CREDIT INSTITUTIONS IN THE CARIBBEAN

Senior Management Workshop
Caribbean Agricultural Credit
Training Committee
(CACTCOM)

Sponsored by USAID
Regional Development Office,
Barbados in Cooperation
with CACTCOM

Hosted by Guyana
Cooperative Agricultural
and Industrial
Development Bank

Georgetown, Guyana
November 17-20, 1980

I. Introduction and Background
to the Conference

Table of Contents

	Page
I. Introduction and Background to the Conference	1
II. Papers, Rapporteur's Reports and Discussion	6
<u>First Session:</u>	
Economy-wide Influences on Rural Financial Market Performance by Compton Bourne	7
Rapporteur's Report and Discussion	29
<u>Second Session:</u>	
Interaction of Price and Credit Policies in Costa Rican Agriculture by Donald W. Larson and Robert C. Vogel	33
Rapporteur's Report and Discussion	73
<u>Third Session:</u>	
Issues Surrounding the Design and Performance of Small Farmer Credit Programs: A Review of the Jamaican Experience by Douglas H. Graham	76
Rapporteur's Report and Discussion	113
<u>Fourth Session:</u>	
Group Lending Experiences in Reaching Small Farmers by B.M. Desai	118
Rapporteur's Report and Discussion	140
<u>Fifth Session:</u>	
Issues of External Funding and The Viability of Rural Development Banks by Compton Bourne.	144
Rapporteur's Report and Discussion	166

Sixth Session:

The Potential for Rural Savings Mobilization:
Some Evidence from Latin America by Robert C. .
Vogel 169

Rapporteur's Report and Discussion 193

III. Appendix: Roster of Participants and
Institutions at the Senior Management Workshop,
CACTCOM--Georgetown, Guyana, November 7-20,
1980 197

I. Introduction and Background to the Conference

From November 17th through the 20th of 1980 a Senior Management Workshop of CACTCOM was held at Georgetown, Guyana. The planning and preparation of this effort involved many individuals, institutions and organizations some of which merit mention in this introduction.

The genesis of this workshop grew out of meeting in March of 1980 in Jamaica among the Executive Committee of CACTCOM (consisting of Ian Whittaker of the Jamaica Development Bank; Audley Coulton of the Agricultural Credit Board of Jamaica; Ian Chandler of the Barbados National Bank and John Yates of the Guyana Cooperative Agricultural and Industrial Development Bank), ably assisted by Richard Roberts of the FAO in Rome and also Compton Bourne of the University of the West Indies and D.H. Graham of Ohio State University.

The concern grew that a senior workshop was now appropriate to complement CACTCOM's more usual activity of designing training sessions and short courses for middle level technicians and staff in agricultural lending institutions and programs. It was felt that there were broader policy issues that merited discussion among the more senior management of these same institutions. In part this concern grew out of the difficulties encountered by many agricultural

credit institutions and programs in the region during the mid to late 1970's. Some of these institutions were experiencing growing delinquencies and defaults; an erosion of the real value of their portfolio through inflation; rising lending costs; a decline in the possibility of continued international funding and increased pressure from hard pressed local governments to cut back on costs to economize on budgetary support. In the light of these concerns it is not surprising that the theme of the conference was focused on the current viability of these institutions and programs in the Caribbean.

The staff at Ohio State University was called upon to organize the papers to be presented in this area since OSU has been engaged in analyses of rural financial markets for over a decade. To gain a broader perspective on these issues material was presented on experiences in other lesser developed countries such as Peru and Costa Rica. Specialists were drawn in from India (B.M. Desai), the University of the West Indies (Compton Bourne) and other universities in the U.S. (Syracuse) as well as Ohio State. All had worked together with OSU staff on previous occasions and thus a fairly consistent treatment of the issues was possible despite the diverse background of the resource people involved.

Next came the issue of funding the conference. This represented a challenge given the large number of individuals

and institutions within CACTCOM and the legitimate concern that as many of these members as possible should participate. Fortunately the Regional Development Office of the USAID Mission in Barbados was sympathetic and supportive. William Baucom and Thomas King among others were responsible for arranging support for the resource people and covering the costs for a large majority of the CACTCOM members to attend. The vision and encouragement of USAID for this effort is gratefully appreciated by all parties concerned.

Finally, the task of hosting this effort fell on the shoulders of John Yates and his staff at the Guyana Cooperative Agricultural and Industrial Development Bank. This proved to be a fortunate choice. The facilities for the meeting were outstanding; the various field trips to gain insights into Guyanese agricultural development were unusually informative and the efforts made to resolve the numerous practical problems of arrivals, departures and refreshing social activities met the highest standards of efficiency of support. At the same time the participants at the conference were honored in having the Guyanese Minister of Finance, F.E. Hope, address the conference in its opening session. Frequent visits at Guyanese institutions and discussions with key Guyanese officials were widely appreciated by all.

In closing it is appropriate to set the stage for the papers and discussions that follow. As mentioned at the

conference's closing session the OSU colleagues and associates gained immeasurably from the fruitful dialogue that followed their presentations. There is no simple formula or strategy to resolve many of the questions raised at the conference. Nevertheless it is hoped that the issues raised, the insights gained and the recommendations considered shed more light on these problems than may have existed before.

Important here are such questions as: (1) the role of general economic policies in penalizing agriculture, compromising the rate of return to farming and affecting the viability of agricultural portfolios in rural lending institutions; (2) strategies to improve the performance of lending institutions through more flexible interest rate policies, improved informational systems to detect arrears more quickly and record lending costs in a more analytically useful framework; (3) the possibility of lowering lending costs through group loans and other innovations and the crucial issue of designing strategies to mobilize domestic savings to make up for declining international funding and; (4) better interaction between international lenders and local institutions and programs to remove inflexible or inappropriate guidelines that increase the vulnerability of local programs.

In the end the OSU group felt that effective financial intermediation can play a positive role in economic development

and rural development in particular. Still, while healthy rural financial markets might be necessary, this may not be both necessary and sufficient to guarantee progress in rural development. Complementary efforts in the real sector to lessen the penalization of agricultural activity and improve the rate of return to farming are called for. We hope that the dialogue that emerged within the conference clarified these issues and that this effort will lead to continued discussion and, where appropriate, to policy action to deal with these problems more effectively.

Douglas H. Graham
The Ohio State University

II. Papers and Rapporteur's Reports
and Discussions

ECONOMY-WIDE INFLUENCES ON RURAL FINANCIAL
MARKET PERFORMANCE

By

Compton Bourne

University of the West Indies

Paper Prepared for
The Caribbean Agricultural Credit Training Committee (CACTCOM)
Senior Management Workshop
Georgetown, Guyana

November 17-20, 1980

ECONOMY-WIDE INFLUENCES ON RURAL FINANCIAL
MARKET PERFORMANCE

By

Compton Bourne

University of the West Indies

The viability of rural credit institutions and programs is an important item on the policy agenda of Caribbean governments, regional agencies, and the credit institutions themselves. Among many decision-makers there is genuine concern about the performance of rural credit programs. Financial advisers have been provided for some struggling institutions in the East Caribbean Common Market. Programs have been redesigned in others. In Jamaica there is even an active movement towards the merger of several public sector programs and institutions.

These policy concerns and related initiatives are commendable. Nonetheless, they reveal one serious policy limitation, namely that problem diagnoses and solutions are almost always entirely within the context of the credit programs themselves. This paper advances the thesis that developments in the wider economy have a major influence on the viability of rural credit institutions and programs. Correspondingly, appropriate policy approaches should be less narrow in scope, encompassing the real sector and not confined to the financial sector or parts thereof.

The remainder of the paper elaborates on the importance of the wider policy approach, outlines the main channels of economy-wide influences, and by reference to Jamaica comments on their likely significance in the

Commonwealth Caribbean. Because public sector institutions and programs are not the only or even the largest creditors in the rural financial markets, the ensuing discussion is formulated in terms of rural financial markets to allow treatment of matters more germane to private financial institutions.

Why Consider Economy-Wide Influences

Financial markets are expected to contribute to rural development by improving the quantity and quality of rural savings, and by the provision of credit in amounts and forms that enhance productive capacity and rural equity. Evidence for a few countries leads to the conclusion that rural financial markets are not fulfilling these expectations in the CARICOM countries (see for Example Bourne 1976, Graham, Bourne and Begashaw 1978, Bourne and Graham 1980, Graham and Bourne 1980, and Weir et al 1980). Financial savings have not grown significantly in constant prices. Poor loan repayment performance and problems of funding have also prevented the sustained growth of rural credit. In several countries, such as Montserrat, St. Kitts-Nevis, St. Vincent, Dominica, and Jamaica, rural financial markets are in a state of acute depression.

Among the various approaches that might be taken to diagnose problems in the viability and performance of rural financial markets are indepth analyses of specific programs and institutions. Such studies invariably highlight the weakness of program design and managerial skills, poor coordination with other policies, ill-defined or inconsistent objectives, and too rapid changes in the size and composition of credit programs in the context of limited managerial skills and resources. Policy measures which emerge from intra project evaluations emphasize the need

for innovations in deposit facilities and savings mobilisation (Adams 1978, Bourne and Graham 1980), better credit delivery systems (Adams and Ladman 1979), improved credit appraisal and more effective loan monitoring and recovery procedures (Bourne 1976, Graham, Bourne, Begashaw 1978, Graham and Bourne 1980). The need to institute more flexible interest rate policies, in order to reduce the wide gap between low lending rates and high lending costs is frequently advised (Adams 1979, Datey 1978, Graham and Bourne 1980, Bourne 1980). Together, these intra-project reforms are expected to guarantee a viable, self-sustaining set of financial programs.

For the most part these policy recommendations are based on sound diagnoses. However, there usually is not sufficient recognition of the influence of the overall economic environment on rural financial market performance and on the efficacy of financial market reforms. A rural financial market is not an isolated set of institutions, transactors, and financial activities. It is a component of the total financial sector which is itself one of several sectors in the economy. Though functional and institutional fragmentation of the financial sector is characteristic of Caribbean economies, there are strong linkages between constituent elements of the financial sector and the rest of the economy. These links ensure that developments in rural financial markets both condition and are conditioned by developments in the wider economy. More usually, the influence of the latter is stronger and decisive.

An appreciation of interconnections is necessary for effective policy formulation at both the national economic and the financial institution levels. National and sectoral planners need to keep in mind

the economic interrelatedness if the risks of policy inconsistencies and unintended consequences are to be minimised. Top decision-makers in financial institutions need to convey the sectoral and market incidence of macroeconomic policy to macro-planners who think primarily in global terms.

How Economy-Wide Factors Affect Rural Financial Markets

The continued viability of rural financial institutions is an essential requirement for the achievement of the socio-economic objectives usually set for rural financial markets. Institutional survival and growth is necessary for the maintenance and expansion of financial programs. Accordingly, viability and growth are crucial indicators of rural financial market performance. Therefore, the influence of economy-wide factors can be examined in terms of their consequences for institutional viability and growth.

The crucial financial market variables are lending resources and the realized operating margin of rural lenders. These variables crystallize the outcome of more basic forces operating on both sides of the financial markets. Lending resources are increased by equity, debt and deposit liabilities, and decreased by the diversion of these capital inflows to operating expenditures. Realized operating margins are affected by interest and non-interest operating costs, by loan defaults, and by interest and other operating income. Savings and debt transactions constitute the link between these variables and rural non-financial enterprises. Savings and debt repayments contribute to loanable resources, while dis-savings and debt default have the opposite effect. Likewise, loan delinquency and

default increases lending costs and reduces net revenue. The channels of influence of economy-wide variables on these financial market operations will be discussed now. Five broad sets of economy-wide factors are considered: the general price level, product price policies, trade and foreign exchange policies, interest rate policies, and non-price credit restraint policies. Each is discussed in turn though they might operate simultaneously.

The General Price Level

The general price level can exert an influence on rural financial markets through the cost and revenue (or profit) functions of market transactors. If factor prices are indexed to the general price level, then changes in domestic price inflation will cause changes in wages and other factor costs of financial institutions and non-financial enterprises. However, these changes will most likely be asymmetric: domestic price inflation spilling over into cost increases for financial market transactors, but domestic price deflation unaccompanied by cost reductions. Unless the financial market transactors increase their product prices (i.e. loan charges and commodity prices) and/or improve total factor productivity, operating margins will be reduced by domestic price inflation. A profits squeeze may exert further depressing effects on financial institutions by reducing the capacity and willingness of non-financial enterprises and individuals to save and to repay debt. Resources inflows may thus be adversely affected and loan delinquency problems arise.

The strength and direction of the link between the domestic price level and factor costs are critical. Labour in the formal financial markets of the Commonwealth Caribbean is highly unionized. Aggressive unionism ensures that labour costs adjust fairly rapidly to general price increases. Further, despite the overall weaker degree of unionization in rural commodity sub-sectors, some segments of the labour market, e.g. plantation agriculture, are no less highly unionised than urban centered industries. Wages-spread and spillover mechanisms link wage rates in the two 'strongly unionized' and the non-unionized segments so that the unionized wage rate pulls up the non-unionized wage rate. The other factor markets tend to be oligopolistic or monopolistic, with suppliers of capital and intermediate inputs seeming to adjust their own product prices rapidly to price level increases in accordance with a full-cost pricing rule.

The role of real income in financial savings decisions is also important. The Caribbean consensus is that real income is the single most significant influence on domestic savings. Price level effects via changes in real income can therefore be expected to strongly influence the flow of loanable funds in rural financial institutions.

Product Prices

For generalised inflation to exert a profits squeeze on rural financial markets, the prices of credit and commodities must rise less rapidly than factor costs. There are several reasons for expecting such an outcome.

The loan charges of public sector credit institutions are subject to governmental directives and are often specified in contracts with external funding agencies. Loan rates of interest and fees are usually not only low

but rigid. Even under mild inflations, the rate of general price increases (and therefore cost increases) tend to exceed interest rate increases in public sector financial institutions. Private financial institutions mainly commercial banks, are not so severely affected through this channel since in most Commonwealth Caribbean countries they are free to increase loan rates of interest. However, the interest elasticity of loan demand places a market limit on the degree of upward interest rate revisions. As a consequence, private financial institutions also experience a cost squeeze under rapid inflation..

The main limitation on commodity price increases grows out of official price control policies. In pursuit of cheap food objectives, price controls are imposed on domestic farm products and on competing imported foodstuffs. Where the price of the domestic product is uncontrolled, but the price of the imported competitive commodity is set substantially below the price of the local farm commodity, a profits squeeze may still result. The 'cheaper' import either displaces the local product and has a quantity effect on gross revenues, or forces lower prices and has a price effect on the gross revenues of the domestic producer. Even where price controls are revised upwards to take account of increases in production costs, adjustment is usually not full and moreover is protracted. In such circumstances, some profits depression still occurs.

Interest Rates

Financial markets in the Commonwealth Caribbean are subject to interest rate regulation as already noted in the case of loan rates of interest. There is no need to repeat the discussion on loan rates. Instead,

attention is directed to interest rate policies as they affect other assets and liabilities.

A financial institution is a multiproduct firm, providing a mix of financial credits at several prices. Its overall rate of return depends on the output of each credit-product and the price thereon. Commercial banks lend to non-rural enterprises and to government (either by direct loan or purchase of government debt instruments). Accordingly their overall income is affected by the rates of interest prevailing on these non-rural credits. Similarly, public sector credit agencies mainly for liquidity and capital purposes maintain a portfolio of market investment assets, essentially commercial bank deposits and government debt instruments.

Official policies have tended to keep the interest costs of government debt at a low level. Legal reserve requirements generate a compulsory demand for government debt among commercial banks. Moral suasion serves the same purpose among public sector credit institutions.

Partly because interest rates on savings instruments have been depressed for so long at such low levels, there is virtually no conclusive evidence on the likely effect of interest rate increases on savings in the Commonwealth Caribbean. The most that can be said is that thus far savings have not diminished significantly in response to the prevailing negative rates of interest. But this fact does not imply the converse, namely that substantial interest rate increases would not induce a substantially larger volume of savings. If savings are interest-sensitive, then the overall trend in savings rates of interest will influence the volume of funds mobilised locally by the commercial banks and other institutions that accept deposits. It remains to be said, also, that higher interest rates on deposits

imply higher lending costs for rural financial institutions. The savings rate of interest thus exerts its influence through the cost functions of rural financial institutions as well as through their lending capacity.

These sources of influence are not particularly germane for public sector credit agencies which obtain their loanable resources primarily from external donor agencies, local governments, and quasi-governmental institutions, though they are affected to the extent that they borrow from private financial institutions which accept local deposits. Private financial institutions are the ones most affected by the national behaviour of rates of interest on savings instruments.

Credit Restrictions

Quantitative credit restrictions are frequently imposed in pursuit of sectoral and global economic planning objectives. They tend to have an uneven impact on financial institutions within the financial sector as a whole as well as within the rural financial sub-sector. Public sector institutions are usually not subject to credit restraints. In contrast, private financial institutions may have to observe ceilings on their lending in total and to specific borrowing categories or economic sectors. More usually the restricted categories are among the more lucrative assets. One effect of these restraints therefore is to reduce the earning potential of the overall financial asset portfolio. Because of the rigidities in cost structures arising from the contractual nature of time deposits, these institutions will experience short run reductions in earnings relative to costs unless loan rates of interest are sufficiently increased.

On the borrowers' side of the market, global credit restraint may impart a liquidity squeeze, depending on the degree to which borrowing enterprises are reliant on banks for their working capital. The liquidity squeeze would be even greater if the credit contraction coincides with downward pressures on current profits and savings. These liquidity problems may easily spill over to lending institutions in the form of loan delinquency and, in extreme cases, in loan default.

Trade and Foreign Exchange

Foreign trade and foreign exchange developments influence rural financial market performance through their effects on the cost, production and revenue functions of financial and non-financial enterprises, and their effects on debt costs.

Import prices are an important component of factor costs in highly open economies. Import prices generate increases in the prices of raw materials and capital goods, and also in wage rates via changes in the cost of living. Changes in import prices (in domestic currency) are determined partly by changes in the exchange rate, and partly by changes in foreign export prices. For some Caribbean countries, e.g. Jamaica, exchange rate changes have been dominant in recent years. To the extent that rural product prices and financial product prices do not keep pace with factor cost increases induced by import prices, the net revenue functions of rural lenders and borrowers are adversely affected.

Quantitative import restrictions can also affect profitability and gross revenues at the enterprise level. Depending on the import-coefficient of production and on the scope for substituting local inputs,

restraints on imports of producer goods reduce production levels and efficiency with obvious consequences for gross and net revenues.

The debt cost consequences of exchange rate changes stem from the fact that some proportion of rural financial market liabilities are denominated in foreign currencies. Therefore, the local currency capital value equivalent of these debts varies directly with the direction and magnitude of change in the exchange rate. Devaluation increases the capital value of the debt in local currency while revaluation does the opposite. Increases in the capital values of the credit agencies' liabilities will lead either to increases in loan charges if profit margins are to be protected, or to some institutional decapitalization if profit margins are allowed to fall. A negative influence on institutional performance is also possible through the repercussions of devaluation on non-financial debtor behaviour. If debtors respond to the discontinuous increase in debt costs by loan delinquency and/or default, lending costs will rise to the detriment of the lending agency.

Economy-Wide Factors in Rural Financial Market Depression:
A Jamaican Case Study

The Jamaican economy can be used to illustrate some of the mechanisms identified in the preceding section. The economy collapsed from a situation of positive growth of real gross domestic product averaging 5 percent per annum between 1965 and 1972 to an uninterrupted succession of negative annual growth rates ranging from 1 to 8 percent between 1974 and 1978.

Prolonged balance of payments problems, manifested by a movement from net foreign reserves of J\$132 million in 1971 to minus J\$196 million in 1977,

resulted in increasingly severe corrective policies of quantitative restrictions on imports, exchange rate devaluations totalling 54 per cent between 1970 and 1978, and domestic credit restraint. The economy is heavily reliant on imports for its supply of consumer and producer goods, with imports averaging 41 per cent of gross national expenditure over the period. Consequently, domestic prices are highly responsive to changes in import prices. The rate of inflation has risen sharply, averaging 15 percent during the 1970s, and was as high as 27 percent in 1978. Labor is highly unionized in all productive sectors, excluding domestic agriculture. Wage rates have generally kept pace with domestic price inflation.

The poor performance of the real sector was accompanied by serious problems within the financial sector, including the rural financial market. The rural financial market will now be briefly described, and its depression indexed.

The institutional complex that comprises the Jamaican rural financial market includes eight commercial banks operating a country-wide network of branches, and two specialized government-owned credit agencies, namely the Jamaica Development Bank and the Agricultural Credit Board. Commercial banks are the largest single source of credit as well as the main savings institutions. The Agricultural Credit Board is a non-deposit taking institution established solely for the purpose of making direct loans to large farmers and institutional loans to the national network of People's Cooperative Banks, which in turn make small loans to small farmers. The People's Cooperative Banks also mobilize rural savings but on a very small scale. The Jamaica Development Bank, established in 1969, is funded mainly through capital subscriptions and loans from the Jamaica Government

and from loans from foreign aid agencies. The Jamaica Development Bank operates a commercial loan window for medium to large farmers and, through an affiliated agency i.e. the Self-Supporting Farmers Development Program, maintains a loan facility for small to medium sized farmers. The Ministry of Agriculture provides rural credit services under several ad hoc programs, the most recent and important being the Crop Lien Program launched in 1977 to provide production loans to domestic foodcrop producers. Other financial institutions, such as building societies and life insurance companies, and informal groups such as rotating credit associations and credit unions complete the institutional structure of the rural financial market in Jamaica. While the rural savings and credit activities of the latter set of transactors cannot be precisely quantified, it does appear that most rural savings and credit are channelled through the commercial banks and specialized government programs. The ensuing discussion of rural financial market depression is focused on the commercial banks, the Jamaica Development Bank and the Self-Supporting Farmers Development Program.

In keeping with the emphasis on institutional viability and growth, four pertinent indicators of financial market performance are the behaviour of savings, credit, loan repayments, and profitability. Time series estimates of rural savings in Jamaica are not available. However, the behaviour of commercial bank total savings and time deposits provides some insight into the trends in rural savings mobilization. Real savings and time deposits after rising from J\$223 million in 1970 to J\$298 million in 1972, declined by 18 percent over the next two years, recovered slightly in 1975 and 1976, only to decline by roughly 7 percent in 1977. Overall, real savings at commercial banks stagnated from 1973 to 1978. Therefore,

it can be inferred that the savings side of the Jamaican rural financial market did not perform well during this period.

Rural credit, having expanded rapidly early in the 1970s, tended to decline after 1974. Real credit balances totalled \$29 million in 1970, \$35 m. in 1974, and \$43 m. in 1978. The annual growth rate of credit (measured in constant 1970 prices) fell, negative growth being experienced in 1974 and dramatically so in 1978. The ratio of rural credit to agricultural gross domestic product at factor cost exhibits the same pattern as the dollar values of rural credit, i.e. a rise and then a decline.

Loan repayment data is not available for a sufficient number of years to permit similar trend analyses for loan repayment performance. However, the available information reveals a very unsatisfactory situation in 1977 and 1978 (Graham, Bourne, Begashaw). The ratio of arrears to payments due to Jamaica Development Bank commercial window loans reached system collapse levels of 81 and 83 percent in 1977 and 1978 respectively. The arrears ratio for the Self Supporting Farmers Development Program was as high as 38 percent in 1978. The commercial banks, largely because of their more stringent loan appraisal and recovery practices and their early write-off policy for bad debt, managed to keep their arrears ratio down to 4 percent in 1978. However, commercial banks did experience serious repayment problems. Their allowances for losses and bad debts as a proportion of total current operating expenses rose from an average of 4 percent between 1970 to 1975 to 6 percent between 1976 and 1977, and even higher to 11 percent in 1978. While these statistics on commercial bank performance do not pertain to agricultural loans exclusively, one may

infer from these data that commercial banks, like the public sector credit agencies, were experiencing difficulties in recovering rural loans.

There is no question that the profits performance of rural credit institutions deteriorated during the period analysed. The Jamaica Development Bank's ratio of operating income to total expenses tended towards 1.0 between 1971 and 1975, but decreased drastically to 0.3 by 1977. The commercial banks' ratio declined from 1.18 in 1970 to 0.98 in 1978.

The evidence on these financial indicators leads inescapably to the conclusion that Jamaican rural financial markets were very depressed in the 1970s, particularly in the latter half of the decade. Graham, Bourne and Begashaw have demonstrated that weaknesses in the design, implementation, and monitoring of rural credit programs explain much of this poor performance. However, these factors operating on the supply side, i.e. financial institutional side, do not fully account for the dismal experience. Events within the overall economy seriously contributed to the difficulties experienced within the rural financial sector. The importance of these more general influences will now be demonstrated.

The price behaviour of the economy contributed to the debt repayment problems experienced by Jamaican farmers. Domestic price inflation was rapid, averaging between 15 and 17 percent per annum during the decade. On the basis of the wage-price relationship prevailing in this economy, one could infer that agricultural wage rates along with other wage rates rose rapidly in response to the inflation of consumer prices. Annual wage settlements for all sectors of the economy during the period 1971 to 1976 ranged between 18 and 45 percent. Economy-wide labor incomes per worker

increased annually by an average of 10 percent. Agricultural incomes kept pace with the economy-wide trends. While no details are available on agricultural wage rates specifically, per worker compensation of employees in the agricultural sector rose by an average of 18 percent over the period, exceeding the national rate of increase of income per worker in 1975 and 1978.

The price of capital services also increased significantly over the period. The import price index rose by an average of 23 percent per annum. The annual increases were particularly large in 1973, 1974, 1977 and 1978. Substantial exchange rate devaluations occurred in the first and last two of these four years, while in 1974 OPEC raised petroleum prices substantially. Further, more direct support for the contention that the price of capital services increased greatly is provided by the data on unit prices of imported chemical fertilizers. The annual increases averaged 28 percent, and in 1974 more than doubled, again largely as a result of OPEC's impact on the price of petroleum and petroleum-based products. It can be concluded, therefore, that the price of capital services depressed gross agricultural profits.

These factor price trends do not appear to have been offset by increases in farm productivity. In the export sector, the index of tons of cane harvested per acre declined almost continuously from 100 in 1970 to 85 in 1977. Productivity per acre in domestic agriculture remained roughly the same from 1971 to 1976, but seems to have risen significantly in 1977 and 1978.

Quantitative restrictions also reduced farm profits. Import licensing became increasingly widespread and severe, with consequent

reductions in the availability of producer goods. For example, the quantity index of fertilizer imports declined by 11 percent in 1974, and then again by 6 percent in 1976 and 22 percent in 1977. The smaller supplies of improved inputs must have adversely affected production and productivity, and thereby farm revenues. The index of domestic food crop production declined slightly from 149 in 1972 and did not regain that level again until 1977 and 1978 when the massive governmental credit and physical support under the Emergency Production Plan succeeded in raising the index to 180 and 228 respectively. During this period, output decreased for the major agricultural export commodities, i.e. sugar and bananas by between 33 and 42 percent, and for quantitatively minor export commodities such as coffee.

Given these adverse trends in factor prices, output, and productivity, it is necessary to review the behaviour of agricultural commodity prices. It can be deduced that export prices rose on average more slowly than factor prices, adjusted for productivity declines. For instance, average annual percentage increases in the export prices of sugar and bananas, the two main export crops, were 20 and 18 percent respectively compared to an average annual price increase of 28 percent for fertilizers. Domestic agriculture seems to have fared no better, since there was only an average annual percentage increase of 20 percent for domestic farm-gate prices. It should be noted that farm-gate prices actually declined in 1978.

The preceding analysis leads to the conclusion that the increases in product prices did not totally offset increases in factor prices, nor production and productivity declines. Consequently gross profits were seriously squeezed. Direct evidence on profits reinforces this conclusion.

The National Income and Product Accounts provide data on a reasonable proxy for profits, namely real operating surplus defined as value added minus net labor, tax, and capital consumption expenditures. The real operating surplus of the agricultural sector declined by 5 percent in 1974, 4 percent in 1975 and 8 percent in 1978. Altogether agricultural gross profits fell by an average of 3 percent per annum between 1970 and 1978.

The lower levels of gross income flows occurred at times when price trends in the economy increased the money value of farm household purchases. Unless farmers were willing to accept substantially lower real levels of consumption, the rapid rate of consumer price inflation would result in larger money allocations to farm household consumption. No data is presently available on farm consumption expenditures specifically. However, the National Accounts data reveal that aggregate real private consumption expenditures did not fall until 1977 and 1978 when decreases of 4 and 10 percent were recorded. Most likely, farm families shared that experience.

Though it is not possible to be categorical about factor cost developments among the lending agencies, the evidence does suggest that these costs rose in response to the general inflationary trends in the economy. Labour costs in the commercial banking industry quintupled between 1970 and 1978, as did non-interest expenses of the Jamaica Development Bank.

The earnings performance of the commercial banks was significantly affected by official financial policies. Legal reserve requirements were frequently revised upwards, moving from 15 percent in 1969 to 29.5 percent

in 1977. Government direct borrowing from the commercial banks also increased. As a consequence, total commercial bank lending to government increased from 11 percent of bank assets in 1970 to 33 percent in 1977. At the same time, quantitative restrictions were placed on commercial bank lending to the private sector, particularly for consumption and import trade. Since the interest rate on government debt instruments and on direct debt were substantially lower than that on private debt, the income earning potential of commercial banks was continuously being undermined by these credit market policies. The negative tendencies were reinforced by the reduced demand for bank loans caused by the foreign exchange restrictions on import demand. Extensive foreign exchange rationing severely contracted the demand for bank credit among distributors and consumers.

It has been argued so far that changes in product and factor prices, output, and productivity contributed to rural financial market depression by substantially reducing the capacity of farmers to save, make profitable investments, and to repay debt. The influence of credit policies and trade policies on credit agencies was also dealt with. It will now be shown that debt service and amortization requirements also increased.

Commercial banks increased their loan rates of interest in an attempt to moderate the decline in net earnings caused by lower volumes of lending. On average, their nominal loan rates during 1974 to 1978 were three index points higher than rates in the 1970 to 1974 period (Bank of Jamaica Annual Reports). Loan charges of public sector credit agencies remained the same (Graham, Bourne, Begashaw). However, given the

large share of commercial banks in rural credit, overall rural loan rates of interest were pulled upwards.

Furthermore, frequent exchange rate devaluations, totalling 54 percent between 1970 and 1978, increased the local currency value of debt financed from foreign funds. Farmers are required to maintain the foreign currency values of such loans made by the Jamaica Development Bank. Consequently, exchange rate devaluation abruptly increases the local currency costs of these debts. Foreign funds comprised between 33 and 67 percent of loans extended by the Jamaica Development Bank during the period 1970 to 1978. Farm credit extended by other institutions are not based on foreign funds and consequently have been unaffected by the recent devaluations. Nonetheless, given the share of the Jamaica Development Bank program in the total supply of rural credit, a substantial proportion of farm debt must have been adversely affected.

Conclusion

This paper has dealt with the influence of economy-wide factors on rural financial market performance. The main channels of influence running from the general price level, product prices, credit market variables, and the foreign sector to the lending position and viability of rural credit institutions were outlined. The explanation of Jamaican rural financial market depression in these terms emphasizes the importance of the overall economic framework and policy measures taken outside rural financial markets.

References

1. ADAMS, Dale W., "Mobilising Household Savings Through Rural Financial Markets", Economic Development and Cultural Change 26, 3, 1978: 547-60.
2. _____, "Recent Performances of Rural Financial Markets in Low Income Countries", ESO 596, Dept. of Agricultural Economics and Rural Sociology, The Ohio State University, April 1979.
3. _____ and J.R. LADMAN, "Lending to Rural Poor Through Informal Groups: A Promising Financial Market Innovation?" Savings and Development 3, 2, 1979.
4. BOURNE, Compton, "The Farm Improvement Credit Scheme," Vol. II in Small Farming Study of Less Developed Member Countries of the Caribbean Development Bank, Report to Caribbean Development Bank, 1976.
5. _____, "The Development Role of Public Financial Enterprises: The Case of the Jamaica Development Bank", unpublished, University of the West Indies, October 1980.
6. _____ and Douglas H. GRAHAM, "Economic Disequilibria and Rural Financial Market Performance in Developing Economies", ESO 725, Dept. of Agricultural Economics and Rural Sociology, The Ohio State University, June 1980.
7. DATEY, D.C., The Financial Cost of Indian Agricultural Credit: A Case Study of Indian Experience. World Bank Staff Working Paper No. 296, October 1978.
8. GRAHAM, Douglas H., Compton BOURNE and Girma BEGASHAW, Economic Growth and Rural Financial Markets in Jamaica. Studies in Rural Finance, Dept. of Agricultural Economics and Rural Sociology, The Ohio State University, October 1978.
9. _____ and Compton BOURNE, "Agricultural Finance and Rural Progress in Jamaica" in John Howell (ed.) Lenders and Borrowers: Rural Financial Markets in Developing Countries. Overseas Development Institute, London, 1980.
10. WEIR, C.C., Compton BOURNE, Elsie LeFRANC and F.E. NUNES, Small Farming in the Caribbean. Caribbean Development Bank, 1980.

1st Session: Rapporteur's Report and Discussion

Economy-Wide Influences on Rural Financial
Market Performance

The author emphasised the limitations of partial reforms within Development Finance Corporations (D.F.C.'s) to resolve the problem of their viability. Importance was attached to the impact of general economic conditions and policies affecting rates of return to farming such as product price policies, trade and exchange rate policies, interest rate policies, inflation, credit regulation policies, etc. The author used Jamaican experience in the 1970's to argue that the negative impact of these conditions and policies on farming contributed to loan delinquency and adversely affected D.F.C. viability.

The discussant (Dr. Whittaker) felt points made in the paper were a useful balance to the traditional discussions of D.F.C. viability. He pointed out that D.F.C.'s might do well to have a current account system for borrowers so as to permit ongoing monitoring of financial transactions and performance of their clients. Second he was pessimistic about the wisdom of raising interest rates too much for fear of cutting off loan demand in an environment of risk and uncertainty. This would limit the ability to disburse funds. There is no way to avoid some element of subsidy to D.F.C.'s if we are determined to have them service long run investment

needs of farmers with all the elements of risk involved in this at our stage of development. Furthermore he noted that farmers in difficult circumstances first stop paying public sector debts to cover other debts and family obligations. D.F.C.'s cannot engage in wholesale foreclosures. It is politically difficult and economically D.F.C.'s gain little in acquiring real estate (i.e. farms) that they can't sell easily in a depressed economy. Finally the exchange rate risk of passing on devaluation costs to farmer is too onerous. The Government must assume much of this burden.

Mr. D. Clarke agreed with many of Dr. Whittaker's comments but added that international donors won't subsidize D.F.C. portfolios indefinitely. Hence some action to deal with viability is needed. Also he pointed out that no one has dealt with the issue of the demand for credit since low interest rates per se are not the only important factor determining loan demand. They probably represent a minor part of total investment or operational costs.

Other commentators pointed out the following:

- a) Discussing the need for D.F.C.'s subsidies does not get at the heart of the problem which is the existence of a set of economic policies penalizing agriculture in general.
- b) An example of inappropriate pricing can be seen in Jamaica where devaluations in the late 1970's

increased the cost of imported inputs to sugar farmers by two hundred percent, while their product price controlled by a commodity board, changed considerably less than the input price.

- c) D.F.C.'s cannot shift into safer portfolios as can commercial banks in times of trouble.
- d) Interest rate spread between what D.F.C. pays to get funds and the ongoing lending rate to farmers is just as important an issue as the appropriate interest rate to farmers.
- e) Must make more explicit the distinction between the criteria of financial credit and social credit. Subsidies frequently may be only a means of misdirecting resources.

Professor Bourne's final remarks were as follows:

- a) He added that there is a need for closer interaction between the management of D.F.C.'s and national economic planners to harmonize price policies, trade policies, interest rate policies and credit policies so as to minimize the explicit and implicit penalization of agriculture and protect the D.F.C.'s customers chances for a profitable use of loans and effective loan recoveries.
- b) He stressed the need for D.F.C.'s to consider mobilizing domestic savings and broadening their

portfolio loan base to include short and long term loans and other multiple loans in order to gain more independence and autonomy from single source financing, diversification economies and informational economies (on their clients). Also offering a wider range of financial services to clients improves the quality of the line of credit and induces the customer to repay his loans to maintain this connection. Loan recoveries will improve and delinquencies decline.

INTERACTION OF PRICE AND CREDIT POLICIES
IN COSTA RICAN AGRICULTURE

by

Donald W. Larson and Robert C. Vogel

Paper Prepared for
The Caribbean Agricultural Credit Training Committee (CACTCOM)
Senior Management Workshop
Georgetown, Guyana, November 17-20, 1980

Interaction of Price and Credit Policies in Costa Rican Agriculture

by

Donald W. Larson and Robert C. Vogel*

I. Introduction

The stagnation of Costa Rican agriculture in the latter part of the 1970s has become a subject of considerable concern. A leading Costa Rican economist, Eduardo Lizano, has documented this stagnation in his recent book, Agricultura y Desarrollo Economica which shows that the growth rate of value added in agriculture failed to average even one percent annually in the 1973-77 period while the growth rate of gross domestic product (GDP) averaged more than 5 percent per year over the same period.^{1/} Furthermore, this growth rate for the agricultural sector is substantially below the 5-6 percent annual growth rate achieved in earlier periods, such as 1968-72, when agricultural growth was only slightly less than the growth rate of GDP. An important characteristic of this stagnation, as Lizano points out, is that it is not concentrated in one or two products but rather tends to be spread throughout the agricultural sector.

In his search for the possible causes of this stagnation, Lizano proposes and then dismisses a variety of natural factors such as droughts, floods,

^{1/} See Chapter II.

* Associate Professor of Agricultural Economics at The Ohio State University and Professor of Economics at Syracuse University and Visiting Professor of Agricultural Economics at The Ohio State University, respectively.

diseases and insect infestations. He also examines the availability of land and labor resources and concludes that changes in these factors cannot explain the stagnation of agriculture. After a brief discussion of prices and markets, Lizano dismisses these factors as a main cause of the stagnation, and he also finds no causal relationship between agricultural production and credit from the national banking system. Lizano concludes that the causes of the stagnation cannot be identified without further study, but that research and extension together with improvements in managerial capacity should receive top priority in the search for a solution to agricultural stagnation.

The purpose of the present paper is to examine the impact of price, exchange rate and credit policies on the aggregate performance of Costa Rican agriculture during the 1970s. It will be argued that Costa Rica, not unlike many other developing countries, has pursued price, exchange rate and credit policies which have adversely affected the performance of the agricultural sector. The failure of Lizano's study to find a role for prices is due to the failure to use "real" prices (that is, to adjust nominal prices for inflation) and the failure to compare domestic prices with international prices. Agricultural price policy in developing countries is often based on a compromise between forces that argue for domestic self-sufficiency and hence high prices and those that argue for low prices to stimulate industrial processing of raw materials and to provide low cost food for urban, industrial workers. Such a compromise often tends to emphasize the level of nominal prices rather than real prices, and this becomes particularly serious in an inflationary setting where prices are adjusted with a lag. Moreover, domestic prices are rarely compared to international prices, and when such comparisons are made, the appropriateness of the exchange rate is seldom considered. Government

credit policies for the agricultural sector typically focus on preferential low interest rates and fail to recognize that credit is fungible and cannot easily be tied to particular activities. Moreover, in an inflationary setting such interest rate policies discourage banks from maintaining the real volume of agricultural lending while providing substantial income transfers to a relatively few credit recipients.

The analysis in the present paper focuses on the behavior during the 1970s of twelve of Costa Rica's principal agricultural products: rice, corn, beans, sorghum, coffee, bananas, cocoa, sugarcane, beef, milk, hogs and broilers. The following section relates the output performance for these products to their real (deflated) prices after discussing the various Costa Rican governmental institutions which control agricultural prices. The next section compares the prices of these products to international prices, that is, the prices of these products in the United States. International price comparisons are made at the official exchange rate and at a more appropriate exchange rate which takes into account the substantial over-valuation of the official rate. The next to the last section relates output to the real volume of bank credit for each of these products and then explains why the relationship between credit and output is so weak. Government interest rate policies, both before and after the financial reform of late 1978, are examined with respect to their implications for the allocation of credit to the agricultural sector. The final section summarizes the main conclusions of the analysis for government price and interest rate policies.

II. Production and Real Domestic Prices

Basic Grains and Beans

Two government institutions play a major role in determining prices of basic grains. The Consejo Nacional de Produccion (CNP), established in 1943, has considerable authority to intervene in the marketing of food products. According to the Organic Law which created the CNP, it has the responsibility to: promote agricultural and industrial production; stabilize prices of food and industrial raw materials; pursue a fair equilibrium between the interests of producers and consumers; and seek the improvement of living conditions of Costa Rican people.^{2/} Even though it has wide discretion with respect to the number and kind of agricultural products subject to its market intervention policies, the CNP has chosen to concentrate on those grains which represent a substantial proportion of the value of agricultural output (rice, beans, corn and sorghum).^{3/} The key feature of CNP market intervention policies are the price support program which guarantees minimum purchase prices to farmers for these basic grains and the monopoly control which the CNP has over imports and exports which effectively protects the domestic market from the international market. To implement the price support program, the CNP has a series of purchasing agencies located in the main producing areas as well as storage and processing facilities. In addition to the CNP, the Ministerio de Economia, Industria y Comercio (MEIC) has an important role in controlling the retail

^{2/} Organic Law of the Consejo Nacional de Produccion, Chapter I, Article 4.

^{3/} The CNP also administers the state-owned monopoly of liquor manufactured in Costa Rica, owns a network of retail sales outlets distributed throughout the country in which it sells staple goods to consumers, and determines the export quota for beef which will be discussed later in this section.

prices for basic grains, the marketing margins for these products, and in coordinating its price control policy with the CNP's price support policy.

A level of prices high enough to stimulate production yet one which guarantees consumers an abundant, low-cost supply of food is usually the focus of much controversy in institutions which have price control responsibility such as the CNP and MEIC. Price setting becomes a more complicated issue in an inflationary economy where the level of nominal or current prices may be quite different from "real" prices, that is, nominal prices adjusted for inflation by some deflator such as that for Gross Domestic Product (GDP). Although the attention of policy makers is usually focused on nominal prices, these prices are useless as indicators of price incentives in an inflationary economy where a high nominal price may, after a time without adjustment, become a low real price which no longer provides any incentive to increase production. For these reasons, this section of the paper will analyze trends in production compared to the deflated farm price of the selected products.

The production-consumption balance for the basic grains is such that Costa Rica is self sufficient in rice, which has even been exported in some recent years, and deficit in the others. Corn production is equal to approximately 90 percent of consumption, while sorghum and bean production are sufficient for about half of the domestic consumption of these products. (Since Costa Rica does not produce wheat, it must import all the wheat for domestic consumption.)

As can be seen in Table 1, even though the production of rice in Costa Rica is quite variable from year to year, it has increased significantly from 55.6 thousand metric tons in 1970 to 134.9 thousand metric tons in 1979 (an 18

Table 1: Production and Prices of Basic Grains, 1970-1979

C O M M O D I T Y								
R I C E			C O R N		B E A N S		S O R G H U M	
Calender Year	Production	Deflated Farm Prices ^{a/}	Production	Deflated Farm Price ^{a/}	Production	Deflated Farm Prices ^{a/}	Production	Deflated Farm Prices ^{a/}
	Metric Tons	Colones per ton	Metric Tons	Colones per ton	Metric Tons	Colones per ton	Metric Tons	Colones per ton
1970	55,621	981	71,294	452	12,024	1017	7,278	389
1971	68,723	840	70,073	488	8,925	1196	11,887	417
1972	62,719	878	75,910	466	14,203	1148	13,806	425
1973	81,640	896	65,476	458	11,031	1790	16,419	534
1974	62,230	1095	60,519	593	13,750	1944	14,129	542
1975	112,132	1060	67,767	659	14,625	2003	19,780	580
1976	105,860	843	114,010	511	16,212	1736	30,885	597
1977	109,964	761	84,703	399	14,059	1477	40,986	461
1978	123,640	735	62,284	393	14,010	1385	52,565	431
1979 ^{b/}	134,907	685	67,657	396	8,639	1244	59,000	N.A.

^{a/} Prices are deflated with the GDP deflator using a 1966 base year.

^{b/} Preliminary estimates.

N.A. is data not available

Source: Banco Central de Costa Rica.

percent annual rate of increase in production). This strong output performance has been associated with a decrease in the deflated farm price of rice (nominal price divided by the GDP deflator) of 20-25 percent from the early 1970s to the late 1970s. Even though real rice prices have decreased, production has increased because of changes in technology and a highly subsidized crop insurance scheme. Yields have increased because of the introduction of improved varieties while the location of rice production has shifted from the Pacific North to the Pacific South which has a more favorable distribution of rainfall. A second factor contributing to increased rice production has been the introduction of a highly subsidized crop insurance scheme which primarily benefits rice producers. A recent study by Vargas et al. shows that the crop insurance program of the National Insurance Institute has incurred large deficits throughout most of the 1970s as premiums paid were equal to slightly over 20 percent of the damages paid for crop failures, and most of these damages were paid to a limited number (about 400) of rice producers.^{4/}

Sorghum production has increased from about 9,000 metric tons in the early 1970s to over 50,000 tons in the late 1970s, an average annual rate of increase of 30 percent, which is higher than that of any other grain. The deflated farm price for sorghum at the end of the 1970s was slightly higher than that at the beginning of the decade, but below the level which prevailed in the mid 1970s (Table 1). On the other hand, the stagnation of corn production appears to be related to less favorable deflated farm prices even though nominal prices were increasing. In response to increasing deflated

^{4/} See Vargas et al. [1979], for a complete analysis of the crop insurance program and its impact on rice production.

farm prices, corn production increased during the mid 1970s and reached a peak of 114,000 metric tons in 1976, after which corn production declined while the deflated farm price was also declining.

Bean production reached the lowest level of the decade in 1979, slightly over half the 16,212 metric tons produced in 1976. The large bean crop of 1976 occurred just after the deflated farm price of beans reached a peak in 1975 which was double the deflated farm price of beans in 1970. From 1975 to 1979 the deflated farm price of beans declined by over 35 percent while production declined slowly through 1978 and then decreased dramatically in 1979. One of the difficulties in analyzing bean price and production relationships is that data on bean production are quite unreliable because of the widely dispersed, small scale nature of the production system. In addition, some Costa Rican bean production may actually be illegal imports from neighboring countries such as Nicaragua, and these have decreased dramatically in 1979 because of the political unrest in that country.

Export Crops

Domestic prices for the main export crops (coffee, bananas, cocoa and sugarcane) are determined by a combination of world market trends for these products and Costa Rican government policy which is carried out through various quasi-governmental organizations. The deflated farm price of coffee and coffee production fluctuated mildly from 1970 through 1975 (Table 2). Then coffee prices nearly tripled from 1975 to 1977 and production increased rapidly in 1977 and 1978. On the other hand, banana production reached peaks of more than 1.2 million metric tons in 1973 and 1975 and has declined somewhat to a little more than 1.1 million metric tons annually since that

Table 2: Production and Prices of Export Crops, 1970-1979

C O M M O D I T Y						
C O F F E E			B A N A N A S		C O C O A	
Calendar Year	Production	Deflated Farm Price ^{a/}	Production	Deflated Farm Price ^{a/}	Production	Deflated Farm Price ^{a/}
	Metric Tons	Colones per ton	Metric Tons	Colones per ton	Metric Tons	Colones per ton
1970	80,590	4423	958,689	403	4,174	3373
1971	87,715	3803	1,027,648	354	4,422	2453
1972	88,792	3495	1,186,093	371	7,055	2541
1973	92,646	4192	1,289,401	330	5,618	4169
1974	91,238	4244	1,151,277	391	5,919	5953
1975	85,259	3437	1,220,690	458	6,609	4008
1976	81,784	5453	1,187,147	416	5,855	5352
1977	87,183	8987	1,124,691	380	7,694	8595
1978	96,034	7092	1,149,117	357	10,072	6999
1979 ^{b/}	N.A.	N.A.	1,114,494	N.A.	5,000	N.A.

^{a/} Prices are deflated with the GDP deflator using a 1966 base year.

^{b/} Preliminary estimate.

N.A. is data not available.

Source: Banco Central de Costa Rica

time. The deflated farm price of bananas reached a peak in 1975 and has declined by about 22 percent since that time which may explain the stagnation in banana production in the late 1970s. Cocoa production and deflated farm prices have varied widely during the 1970s; however, both production and prices began to increase in the mid 1970s. Deflated cocoa prices reached a record level in 1977 and cocoa production reached a record one year later in 1978 which indicates that cocoa production has also responded to changes in deflated farm prices.

Sugar output has increased from 159 thousand metric tons in the 1970-71 harvest to almost 195 thousand metric tons in the 1978-79 harvest, which is an annual rate of increase in output of about 2.4 percent (Table 3).^{5/} This rate of growth in production has not kept pace with the strong demand for sugar in both the domestic market and the export market. As can be seen from Table 3, exports of sugar have decreased by approximately 14,000 metric tons and exports as a percent of production have decreased from slightly over half of production at the beginning of the decade to about 35 percent of production at the end of the decade. An important reason for this decline of sugar exports has been the rapid growth of domestic demand which increased from about 43 kilograms per person in 1970 to nearly 60 kilograms per person in 1979. Based on these consumption figures, domestic demand has increased at an annual rate of about 4.2 percent or nearly double the annual rate of increase in production.^{6/}

^{5/} The actual rate of increase in output could be somewhat different because the production data may not have captured all the production on farms that is processed and sold as crude sugar rather than being sold to a sugar mill.

^{6/} The extent to which Costa Rican consumers have substituted refined sugar for crude sugar may have biased upward the actual rate of increase in consumption.

Table 3: Production, Exports and Domestic Consumption of Sugar, 1970-71 to 1978-

Agricultural Year ^{a/}	Sugar Production	Sugar Exports	Exports as A Percent of Production	Domestic Consumption
	- - - - - Metric Tons - - - - -		Percent	Kilos/capit
1970-71	159,559	82,822	51.9	43.5
1971-72	181,441	97,715	53.9	46.2
1972-73	176,208	84,963	48.2	48.9
1973-74	166,331	68,644	41.3	52.2
1974-75	178,499	69,285	38.8	54.3
1975-76	172,846	75,366	43.6	54.3
1976-77	194,809	67,842	34.8	56.0
1977-78	191,339	70,530	36.9	57.6
1978-79	194,582	68,412	35.2	59.9

^{a/} The agricultural year is from October 1 to September 30.

Source: Liga Agrícola Industrial de la Cana de Azucar

Sugarcane price policy in Costa Rica consists of a completely administered price system. The Liga de la Cana, a quasi-governmental organization, controls the marketing and prices of sugarcane production and processed products in Costa Rica. The Liga sets the prices which sugar mills must pay producers, assigns production quotas to each and directs the sale of sugar production to the domestic or export market according to projected demands. Prices for sugar at all levels in the marketing system are controlled by MEIC. As can be seen in Table 4, the deflated domestic wholesale price for unrefined sugar was below the deflated FOB (free on board) export price of unrefined sugar until 1977-78. The fact that the deflated domestic wholesale prices have exceeded the export price in the last two years may indicate that the government is attempting to improve prices to farmers in real terms by using higher domestic prices to offset the decline in world prices which continued through 1978-79.

The lack of production incentives in the form of adequate prices appears to be one of the factors which explains the stagnation of sugar production. The deflated farm price for sugar in 1977-78 and 1978-79 was about equal to the deflated price for sugar in 1970-71 and 1971-72 (Table 4). However, the deflated farm price of sugar increased by over 50 percent from 1970-71 to 1974-75 before falling to the level prevailing at the beginning of the decade. Sugar production also increased rapidly because of more favorable farm prices and worldwide prices for sugar in that period.

Livestock Products

Total slaughter of beef cattle has increased at the relatively slow rate of about 1 percent annually during the decade of the 1970s. As can be seen in

Table 4: A Comparison of Export, Wholesale and Farm Prices of Unrefined Sugar, 1970-71 to 1978-79

Agricultural Year	Deflated FOB Price of Unrefined Sugar Exported from Costa Rican Ports ^{a/}	Deflated Wholesale Price of Unrefined Sugar in San Jose ^{b/}	Deflated Farm Price Equivalent of Unrefined Sugar Price ^{c/}
- - - - - Colones per metric ton - - - - -			
1970-71	877	894	433
1971-72	998	841	441
1972-73	1043	732	427
1973-74	1639	594	556
1974-75	3204	608	719
1975-76	1267	591	479
1976-77	839	617	468
1977-78	649	725	460
1978-79	355	762	437

^{a/} Converted to colones at the official exchange rate for each year and deflated with the GDP deflator using a 1966 base year.

^{b/} Prices are for the calendar year 1970 through 1978 and are deflated with the GDP deflator using a 1966 base year.

^{c/} Calculated from the average farm price paid for cane adjusted to reflect the average annual yield of sugar per ton of cane and deflated with the GDP deflator using a 1966 base year.

Source: Liga Agricola Industrial de la Cana de Azucar.

Table 5, total slaughter from 1970 to 1973 averaged about 114,000 metric tons, it increased to a higher 125,000 metric ton level from 1974 to 1976 and then increased again to over 130,000 metric tons from 1977 to 1979. This total slaughter is divided between a domestic market which, as can be seen in Table 5, has increased from 30 percent to 45 percent of total slaughter and an export market which has declined relatively and absolutely. Of the exported beef, over 95 percent is sold to the United States, most of it as frozen boneless beef.

The main policy instruments used by the Costa Rican government to intervene in the beef cattle market are export quotas and price controls. The CNP implements the export quota policy and the MEIC implements the price control policy. Because a higher price for beef exists in the export market than in the domestic market, an export quota has been devised to control the flow of cattle between these two markets. After obtaining an estimate of total slaughter based upon historical data and producer declarations of male cattle available for export, the CNP estimates domestic beef consumption needs and deducts this from total slaughter. The remainder is the amount available for export which is assigned as a quota to each export slaughter plant and beef producer.^{7/} The MEIC sets retail and wholesale price ceilings for beef which, in combination with the export quota, maintains lower beef prices in the domestic market than in the export market.

The price trend for beef cattle in the domestic market and the export market, as well as the weighted average of the two markets for Costa Rican

^{7/} See Stein for a thorough discussion of the beef export quota system in Costa Rica.

producers, reveals that the deflated price of beef cattle has decreased by approximately 25 percent in the decade of the 1970s. As can be seen in Table 6, the export price is about 30 percent higher than the domestic price for beef cattle which suggests that government policy has an adverse impact on domestic prices to beef producers.^{8/} Although nominal prices have increased throughout the decade, deflated farm prices reached their peak in 1973 and have declined fairly steadily since that time. Such declining prices may explain the stagnation of beef cattle production.

Hog production increased at an average annual rate of 4.6 percent in the 1970s, being fairly stable from 1970 to 1975 and then increasing rapidly from 1976 to 1978 (Table 7). The deflated price of hogs was also quite stable from 1970 to 1975 and then declined by about 10 percent near the end of the decade. Even though pork production has increased at a relatively favorable rate, Costa Rica has had to import increasing amounts of pork to fill the gap between domestic demand and supply. Broiler production has increased fairly steadily at an annual rate of 3.5 percent during the 1970s (Table 7). This is quite a favorable performance when one considers that the deflated farm price of broilers decreased by about 10 percent from the beginning to the end of the decade.

As can be seen in Table 7, milk production has increased from approximately 200 million liters in 1970 to slightly over 306 million liters in 1979,

^{8/} In February, 1980, a new price policy which eliminated this price differential was approved by the Comision Reguladora de la Carne which contains representatives of the beef cattle producers, processors and the government.

Table 6: Domestic and Export Prices of Beef, 1970-79

Calendar Year	Producer Price in Domestic Markets ^{a/}		Producer Price In Export Market ^{a/}		Weighted Average Producer Price in Both Markets ^{a/}	
	Current Price	Deflated Price ^{b/}	Current Price	Deflated Price ^{b/}	Current Price	Deflated Price
- - - - - Colones per metric ton live weight - - - - -						
1970	2540	2170	3013	2574	2733	2335
1971	2650	2210	3048	2542	2823	2354
1972	2850	2233	3733	2925	3272	2564
1973	3910	2668	4688	3199	4249	2899
1974	4190	2320	4330	2398	4258	2358
1975	3806	1692	4785	2128	4337	1928
1976	3869	1475	4984	1901	4509	1719
1977	4043	1318	5327	1737	4794	1563
1978	5270	1593	7046	2129	6276	1897
1979 ^{c/}	7080	1949	10463	2880	8945	2462

^{a/} The beef cattle price available in Costa Rica is that established at the Montecillos market - the principle beef cattle market in Costa Rica

^{b/} Prices are deflated with the GDP deflator using a 1966 base year.

^{c/} Preliminary estimates.

Source: Banco Central de Costa Rica

Table 7: Production and Prices of Livestock Products, 1970-1979

C O M M O D I T Y						
Calendar Year	M I L K		H O G S		B R O I L E R S	
	Production	Deflated Farm Price ^{a/}	Production	Deflated Farm Price ^{a/}	Production	Deflated Farm Price ^{a/}
	Thousand Liters	Colones per 000 liters	Metric Tons	Colones per ton	Metric Tons	Colones per ton
1970	206,093	804	9,447	2861	4,217	3186
1971	209,508	920	10,234	3410	4,411	3052
1972	221,979	905	10,271	3323	4,677	3589
1973	235,298	788	10,415	3248	4,722	3295
1974	240,916	908	10,560	3306	4,900	3688
1975	250,774	945	9,619	3348	5,091	3255
1976	271,750	864	11,529	3089	5,415	2898
1977	290,299	749	12,509	3082	5,427	2834
1978	300,808	778	13,710	3043	5,590	2593
1979 ^{b/}	306,524	770	N.A.	N.A.	N.A.	N.A.

^{a/} Prices are deflated with the GDP deflator using a 1966 base year.

^{b/} Preliminary estimates.

N.A. is data not available.

Source: Banco Central de Costa Rica

an average annual increase in production of about 4.8 percent.^{9/} This would seem to be an adequate growth rate of output, but it has slowed to only a 1.0 percent annual growth rate in 1978 and 1979, which is much less than the growth rate of demand for dairy products, and this has necessitated increased imports.

Price policy in the dairy industry consists of maximum selling prices for fluid milk administered by MEIC which are set below the market clearing price and are applied at all levels in the marketing channel from the producer to the consumer. The processors indicate that price controls such as those for fluid milk result in an excess demand for the product and they must ration the limited supply among all consumers. Some of the ways which have been used to ration fluid milk consist of changing from daily delivery to homes or stores to an every other day delivery. In addition, processed milk products such as cheese, ice cream and yogurt do not have price controls so that processing plants may divert milk to those more profitable products, thereby further reducing the supply of fluid milk.

The milk production increases have been achieved at the same time that the deflated farm price of milk has been decreasing. The deflated farm price, about 804 colones per thousand liters in 1970 has fluctuated substantially; it reached a high of 945 colones per thousand liters in 1975 and has tended to decrease since then to 770 colones per thousand liters in 1979. It is somewhat surprising that milk production has continued to increase during the

^{9/} Since reliable estimates of raw milk production and consumption in rural areas are difficult to obtain, the annual rate of increase in production may be inflated because of the substitution over time of pasteurized milk for raw milk.

last half of the decade in view of the declining price for the output; however, one would expect more of a lag in the production response to price changes for milk than for products with an annual production cycle. Because of declining prices, farmers may reduce milk output in the short run by temporarily cutting back on the amount and quality of inputs such as the feed concentrates used for milk cows and the amount of urea and other fertilizers which they apply to their pastures. Conversations with milk producers indicated that such reductions in the use of purchased inputs appear to have taken place in the Meseta Central and North during 1979. If prices continue low for long periods, producers will begin selling their milk cows for slaughter and diverting the pasture land to production of more profitable crops. The lack of current and reliable data on the dairy cow herd does not permit analysis of those numbers to observe whether dramatic changes in dairy cow numbers have occurred.

III. International Price Comparisons

When the prices of agricultural products in Costa Rica are compared with the prices of these same products in other countries, and these comparisons are made at the official exchange rate for the Costa Rican colon, Costa Rica appears to be non-competitive in the production of many agricultural products. However, using the official Costa Rican exchange rate for such comparisons is inappropriate and misleading. Using the official exchange rate is not only likely to mislead government officials in setting price policies for the agricultural sector, but also directly affects agricultural output through incentives for producers. If, as is the case in Costa Rica, the official exchange rate is over-valued, then revenues received in domestic currency for export

sales are accordingly reduced, so that the incentives for producers to export, or even to produce those products which might be exported, are thereby reduced.^{10/}

There are two separate reasons for arguing that the Costa Rican colon is over-valued, and each of these must be taken into account independently in arriving at an estimate of the exchange rate which should be used in making international price comparisons. The first reason is based on traditional purchasing power parity arguments.^{11/} In mid-1974 Costa Rica officially devalued by unifying its multiple exchange rates at the higher free market rate of 8.57 colones per U.S. dollar, and this fixed official rate was maintained throughout the rest of the 1970s. From mid-1974 to mid-1979 the Costa Rican wholesale price index increased by 81 percent, while the wholesale price index in the United States, Costa Rica's major trading partner, increased by 47 percent. Assuming that the official exchange rate adopted in mid-1974 was an equilibrium rate at that time and using the relative changes in wholesale prices in Costa Rica and the United States implies that the Costa Rican colon was over-valued by 23 percent as of mid-1979. It can further be argued that the mid-1974 devaluation was insufficient to remove completely the over-valuation of the colon even at that time, as the large deficit in Costa Rica's balance of trade persisted after 1974. In fact, by the beginning of the 1980s this deficit had become so large that Costa Rica was forced to abandon its unified official exchange rate of 8.57 and in September, 1980, adopted a

^{10/} See Schuh [1974] for an analysis of exchange rate policy and U.S. agriculture.

^{11/} See Officer [1976] for a discussion of these arguments.

system under which half of most international transactions take place at the official rate and half at a free-market rate. By mid October the free-market rate exceeded 13 colones per U.S. dollar, which implies an over-valuation of more than 25 percent for the official exchange rate if the equilibrium rate is assumed to be half way between the official and free-market rates.

To this estimate of the over-valuation of the official exchange rate, must be added an estimate of the over-valuation due to the structure of protection. It is now widely recognized that the protection of import-competing activities through tariffs and other trade barriers implies negative protection for export activities, in part because the domestic currency is valued higher vis-a-vis foreign currencies than it otherwise would

be.^{12/} Tariffs and other barriers against imports reduce the demand for foreign exchange and thereby raise the value of the domestic currency.

Estimates of over-valuation due to the structure of protection are based on comparing the existing exchange rate with estimates of what the exchange rate would be under a regime of free trade. This depends, in turn, on estimates of the elasticities of demand for imports and of supply and demand for exports together with the rate of tax (or subsidy) on exports and the rate of nominal protection for imports (including both tariffs and other trade barriers).^{13/}

Estimates for Costa Rica based on data for 1978 yield an over-valuation of slightly more than 20 percent, and this figure is quite insensitive to

^{12/} See Belassa and Associates [1971] for a full discussion of effective protection and for estimates of effective protection for several developing countries including Brazil and Chile.

^{13/} See Bacha and Taylor [1979].

substantial changes in the elasticity estimates. However, it is likely to be an under-estimate of over-valuation for several reasons, primarily the difficulty of quantifying all non-tariff barriers against imports.^{14/} In addition, the changes in foreign exchange markets which were initiated in September, 1980, involve a substantial increase in nominal protection as many tariffs were increased and a system of prior deposits for imports was instituted.

When the official exchange rate is used to compare farm level prices in Costa Rica with those in the United States, one set of conclusions is reached about the competitiveness and efficiency of Costa Rican agriculture, but the conclusions are strikingly different when the over-valuation of the exchange rate is taken into account. As shown in Table 8, the ratio of Costa Rican farm level prices to U.S. farm level prices at the official exchange rate suggests that Costa Rica is more efficient than the United States only for beef among the eight commodities examined. However, when a 40 percent over-valuation of the official exchange rate is taken into account, (which is quite conservative given the foregoing estimates) Costa Rica is more efficient in five of the eight commodities: rice, milk, pork, and possibly beans, as well as beef. Such a dramatic change in the competitive position for these products indicates clearly that an over-valued exchange rate can introduce serious distortions in government price policies and can eliminate price incentives for producers of actual or potential exports.

^{14/} The estimate of a 20 percent over-valuation in Costa Rica due to protection appears quite modest compared to the estimates of Belassa and Associates of 27 percent for Brazil and 68 percent for Chile as of the mid-1960s.

Table 8: Comparison of Farm Prices in Costa Rica and the U.S. at the Official Exchange Rate and Adjusted for a 40 percent Over-Valuation of the Costa Rican Colon

Commodity	Average Farm Price in Costa Rica	Ratio of Costa Rican Price to U.S. Farm Prices at	
	Colones per Metric ton	Official Exchange Rate	Exchange Rate Adjusted 40%
		8.57 Colones per U.S. \$	12.00 Colones per U.S. \$
Rough Rice			
1977/78	1817	1.01	0.72
1978-79	1911	1.24	0.88
Corn			
1977/78	1630	2.37	1.70
1978/79	1783	2.39	1.71
Sorghum			
1977/78	1405	2.27	1.63
1978/79	1405	2.10	1.50
Dry Edible Beans			
1977/78	4891	1.39	0.94
1978/79	4891	1.32	0.99
Beef			
1978	6276	0.68	0.49
1979	8945	0.72	0.51
Milk ^{a/}			
1978	2574	1.26	0.90
1979	2799	1.19	0.85
Hogs			
1977	9450	1.27	0.91
1978	10070	1.14	0.82
Broilers			
1977	8690	1.95	1.39
1978	8579	1.73	1.23

^{a/} The price of milk is in Colones per thousand liters.

Sources: Banco Central de Costa Rica and U.S. Department of Agriculture, ESCS "Agricultural Prices."

Since Costa Rican beef prices are about 70 percent of U.S. farm prices at the official exchange rate and about 50 percent of U.S. farm prices when the over-valuation is considered, the Costa Rican beef industry should be in a strong competitive position in the export market. However, performance has not equalled this expectation. Because real (deflated) beef prices in Costa Rica have declined by about 25 percent during the 1970s, beef production has stagnated and beef exports have declined not only in absolute terms but also from 70 percent of total production to 55 percent. Stagnation resulting from low prices for producers is ultimately due to beef prices set low for Costa Rican consumers together with an over-valued exchange rate for beef exports. A more appropriate exchange rate could markedly increase producers revenues and thus provide the incentive necessary for increased beef output.

Rice also appears to have strong potential as an export, but relatively little has actually been exported because the over-valued exchange rate misleads the government policy makers who set support prices and distorts price signals to domestic producers. As can be seen from Table 8, adjusting the official exchange rate for a 40 percent over-valuation makes Costa Rican farm level prices for rice about 20 percent lower than U.S. farm level prices. International price comparisons at an appropriate exchange rate thus indicate that Costa Rican rice producers are quite competitive, something which is not apparent when the official exchange rate is used.

Distortion of price policies and incentives through an over-valued exchange rate can also be found in the Costa Rican dairy industry, even though the dairy industry is oriented toward the domestic market. It has frequently been argued that Costa Rica has a high cost, inefficient dairy industry which already receives too high a price for fluid milk. Evidence presented to

support this argument is that milk solids can be imported and reconstituted for sale as fluid milk in Costa Rica at a price competitive with locally produced milk. However, this argument ignores the fact that an over-valued exchange rate not only taxes the producers of export goods but also subsidizes the users of import goods. Because of the over-valued exchange rate, it appears more attractive to import milk solids than to raise domestic milk prices and thereby encourage domestic production. When the 40 percent over-valuation of the official exchange rate is taken into account, Table 8 shows that Costa Rican farm level prices for milk are 10-15 percent below U.S. farm level prices. The Costa Rican dairy industry is thus not so inefficient and high cost as has been argued, and higher domestic milk prices may be preferable to importing milk solids which are subsidized through an over-valued official exchange rate.

For some commodities, such as corn and sorghum, Costa Rican farm level prices remain substantially above U.S. farm level prices even when the over-valuation of the official exchange rate is taken into account, which confirms that Costa Rica is not competitive in these products. In the case of beans, a 40 percent adjustment of the official exchange rate yields Costa Rican farm level prices which are about the same as U.S. farm level prices. Wide price fluctuations and a failure to focus on technical problems of bean production, rather than the inefficiency of domestic producers may have been the principal handicaps for bean production.

International price comparisons for hogs at an exchange rate adjusted for over-valuation indicate that Costa Rican farm level prices are quite competitive with U.S. farm level prices, but broiler prices remain substantially higher in Costa Rica than in the United States. The main barrier to increased

production of pork, and especially broilers, appears to be the high cost of feed grains which comprise a high percentage of the production costs for these products. Since the official exchange rate is over-valued, it might seem that pork and poultry producers benefit from a subsidy on imported feed grains. However, as discussed above, feed grain prices (e.g., corn and sorghum) remain high even when the exchange rate is adjusted for overvaluation. The CNP controls grain imports and thereby maintains the domestic prices of these inputs for pork and poultry substantially above world market levels.

IV. Agricultural Credit

The commercial banking system has traditionally been the predominant source of agricultural credit in Costa Rica, accounting for two-thirds to three-quarters of agricultural lending, with most of the rest spread among a variety of informal sources such as moneylenders and friends and relatives.^{15/} No comprehensive survey has been carried out during the 1970s, but it is likely that the commercial banks have maintained their share of agricultural lending, while the growth of financieras (quasi-banks which avoid most government banking regulations) and agricultural suppliers has eroded the shares of other informal sources of credit. The Costa Rican banking system consists of a Central Bank and four commercial banks, all of which are owned by the government of Costa Rica, but which operate with some autonomy, especially the commercial banks. The most important attributes of commercial bank agricultural lending in Costa Rica, at least until the financial reform of late 1978, have been the low interest rates set by the Central Bank and the

^{15/} See Vogel and Gonzalez-Vega [1969].

limits (both minimum and maximum) which the Central Bank sets on the amount of credit to be made available for different activities.

Throughout most of the 1970s, interest rates on bank agricultural loans have been set between 8 and 11 percent, with the lowest rates on loans for small farmers and for certain preferred activities such as planting basic grains and oilseeds. The argument for these subsidized low interest rates, which have even been below the rate of inflation in Costa Rica during several years of the 1970s, is that they improve the distribution of income and promote agricultural production in the face of other distortions which place the agricultural sector, and especially small farmers, at a disadvantage.^{16/} With respect to the distribution of income, bank agricultural loans have been found to be highly concentrated in large loans to relatively wealthy farmers, a pattern unlikely to facilitate an improvement in income distribution.^{17/} As will be shown below, the relationship between subsidized credit and agricultural production is also unclear, in spite of the Central Bank's limits on lending for different activities. This is due in part to two elements which weaken the Central Bank's system of credit limits: (1) the commercial banks are sometimes able to lend less than the minimum limit or more than the maximum; and (2) the limits apply to broadly-defined activities (e.g., planting seasonal crops) and not to specific activities (e.g., planting corn). However, the most important reason is borrower behavior, that is, even loans that are said to be for the planting of corn do not necessarily lead to more corn being planted.

^{16/} See Lizano, [1980] Chapter IV.

^{17/} See Vogel, [1977].

Table 9 shows for each of the principal crops the amount of credit disbursed by the commercial banks for each year, 1970 through 1978, and the percentage of total bank agricultural credit accounted for by each crop. In addition, bank agriculture credit is shown as a percentage of total bank credit and in real terms (using the deflator for gross domestic product). Data for 1979 are not shown, in part because the breakdown by crop is not yet available, but especially because the year since the financial reform of late 1978 deserves separate attention. Although the agricultural sector may be favored with subsidized low interest rates, it is not clear that the agricultural sector has been favored with abundant credit. Bank agricultural credit has not only tended to decline as a share of total bank credit during the 1970s, but has even failed to keep pace with inflation during most years. If a principal purpose of government credit policy is to promote agricultural production, the volume of credit available is likely to be more important than subsidized low interest rates.

It is also important to look for consistent relationships for individual crops between production and the amount of bank credit allocated. However, it must be recognized that any such relationship may be due as much to the demand for credit by producers as to Central Bank policies which attempt to allocate the supply of credit. Looking first at the main export crops, it is difficult to find any consistent evidence of a close relationship between Costa Rican bank credit and production. For coffee, Costa Rica's most important export in most years, production has tended to rise somewhat during the 1970s in the face of a decline in bank credit in real terms and as a share of total agricultural credit. Bananas, usually the second most important export, have never been allocated an appreciable amount of credit by Costa Rican banks.

Table 9: National Banking System
 Distribution By Product of Credit Disbursed for Agriculture, 1970-1978
 (Millions of Colones and Percents)

	1 9 7 0		1 9 7 1		1 9 7 2		1 9 7 3	
	Amount of Credit	Percent of Credit	Amount of Credit	Percent of Credit	Amount of Credit	Percent of Credit	Amount of Credit	Percent of Credit
1. Coffee	470.5	64.2	461.5	47.8	454.1	47.8	528.7	45.4
2. Bananas	14.8	2.0	25.8	2.7	4.6	0.5	2.8	0.2
3. Cacao	1.6	0.2	1.5	0.2	1.0	0.1	2.0	0.2
4. Sugar Cane	27.7	3.8	27.9	2.9	31.9	3.4	25.2	2.2
5. Rice	23.8	3.2	39.8	4.1	43.1	4.5	43.8	3.8
6. Corn	2.4	0.3	6.3	0.6	8.9	0.9	6.3	0.5
7. Beans	1.8	0.2	1.8	0.2	1.5	0.2	1.2	0.1
8. Sorghum	0.1	0.0	0.5	0.1	1.0	0.1	1.8	0.2
9. Beef Cattle	163.4	22.3	268.0	27.8	267.2	28.1	428.5	36.8
10. Dairy Cattle	11.7	1.6	36.5	3.8	32.7	3.4	20.8	1.8
11. Hogs	0.6	0.1	2.8	0.3	3.9	0.4	2.5	0.2
12. Poultry	2.2	0.3	4.4	0.4	4.7	0.5	5.5	0.5
13. Other	11.6	1.6	88.7	9.2	96.1	10.1	93.9	8.1
14. Total	732.3	100	965.6	100	950.8	100	1,163.2	100
15. Deflated Amount of Credit ^{a/}	625.6		805.2		745.1		793.7	
16. Amount of Credit for Agriculture as a percent of all Bank Credit		49.9		45.6		43.0		44.7

Table 9: cont'd

	1 9 7 4		1 9 7 5		1 9 7 6		1 9 7 7		1 9 7 8	
	Amount of Credit	Percent of Credit	Amount of Credit	Percent of Credit	Amount of Credit	Percent of Credit	Amount of Credit	Percent of Credit	Amount of Credit	Percent of Credit
1.	649.9	42.5	591.1	32.5	582.7	30.2	348.3	16.7	411.5	16..
2.	29.4	1.9	1.0	0.0	7.1	0.3	15.9	0.7	6.2	0.
3.	2.1	0.1	7.8	0.4	8.8	0.4	8.6	0.4	6.8	0.
4.	43.4	2.8	102.8	5.7	37.0	1.9	97.5	4.6	58.0	2.
5.	74.7	4.9	244.5	13.5	244.9	12.7	212.3	10.1	236.7	9.
6.	12.3	0.8	38.4	2.1	40.9	2.1	41.4	2.0	29.3	1.
7.	8.0	0.5	16.4	0.9	11.3	0.6	12.9	0.5	9.4	0.
8.	8.5	0.6	25.4	1.4	32.3	1.7	38.5	1.5	48.7	1.
9.	475.8	31.1	390.1	21.5	424.3	22.0	542.6	26.0	668.4	26.
10.	33.9	2.2	48.9	2.7	75.5	3.9	146.5	7.0	146.1	5.
11.	2.8	0.2	4.3	0.2	7.1	0.4	10.7	0.5	19.8	0.
12.	10.5	0.7	6.2	0.3	14.4	0.7	18.4	0.8	16.3	0.
13.	176.2	11.5	333.4	18.4	435.4	22.6	565.6	27.3	827.1	33.
14.	1,527.5	100	1,816.7	100	1,924.6	100	2,068.6	100	2,486.2	100
15.	845.9		807.8		734.0		674.6		751.4	
16		40.0		37.9		38.0		37.8		37.

^{a/} The amount of credit is deflated with the GDP deflator using a 1966 base year.

Source: Banco Central de Costa Rica.

Bank credit for cocoa rose to a substantially higher level beginning with 1975, and production rose appreciably in 1977 and 1978. However, the increase in cocoa prices beginning in 1973, and especially in 1977 and 1978, may be more responsible for the increases in credit and production than any attempts by the Central Bank to allocate more credit to cocoa. Bank credit for sugarcane has been quite erratic, with especially large increases in 1975 and 1977, but these fluctuations do not appear closely related to fluctuations in production.

For basic grains any relationship between credit and production would be especially interesting because of the number of programs that Costa Rica has had to promote the production of basic grains, including several credit programs. High prices for rice in 1974 and 1975 led to substantial increases in production and bank credit for rice in 1975 and 1976. Since then, rice production has continued at a high level, especially in 1978 and 1979, while bank credit for rice has fallen in real terms and as a share of total agricultural credit. Corn production and credit both fluctuated somewhat during the early 1970s, but without any close association. However, in 1975 bank credit for corn rose to its highest level in real terms and as a share of total agricultural credit, while production continued at a low level. Corn production reached a peak in 1976 and has since settled back to its earlier level, while bank credit for corn has continued to be more important in the late 1970s than earlier in the decade. The pattern for bean production and credit is similar to corn. Bank credit increased sharply in 1974, while bean production remained below its 1972 level. Bean production reached its peak in 1976, after bank credit for beans had begun to taper off. Only sorghum, of

the four basic grains, shows a pattern of increasing bank credit accompanied by increasing production.

The relationship between meat production, especially beef, and favorable credit conditions (or favorable prices) is much more difficult to detect because increased credit may initially lead to less slaughter as producers build their herds in anticipation of increased long-run profits. Bank credit for beef cattle tended to increase during the early 1970s, reaching a peak in 1973 and 1974 in real terms and as a share of total agricultural credit, but fell sharply in 1975 and 1976, and then rebounded somewhat in 1977 and 1978. Beef production remained quite stable from 1970 through 1973, fluctuated around a higher level from 1974 through 1976, and then fluctuated around a still higher level from 1977 through 1979. Bank credit for hogs increased appreciably in 1971 and 1972 and then declined somewhat in the following two years, while hog production fluctuated with no clear trend from 1970 through 1975. Only since 1975 has there been a steady upward trend in both production and bank credit for hogs. Broiler production has tended to increase quite steadily throughout the 1970s, while bank credit increased very modestly through 1973, then rose sharply, fell back and rose again in the subsequent three years, and finally remained fairly stable in 1977 and 1978. Milk production has also risen at a fairly steady pace during the 1970s, while credit for dairy cattle has shown significant fluctuations. Bank credit increased greatly in 1971, fell back the next two years, and then returned to its former level in real terms and as a share of total agricultural credit over the following two years, before increasing sharply in 1976 and 1977 and falling back again in 1978.

The examination of production and bank credit during the 1970s for most of Costa Rica's main agricultural products does not give the impression of any close association between credit and output. Given the impact of the government's price policies on agricultural production, there is little indication that bank credit at subsidized low interest rates has effectively either complemented these price policies or offset any distortions that may have been induced. Recent studies of rural financial markets which emphasize the fungibility of credit help to explain why this is so.^{18/} Because credit is fungible, preferential low interest rates for the agricultural sector will fail to redirect resources toward favored activities in the agricultural sector. Preferential low interest rates do not change the prices paid by farmers for inputs or received for output or the technologies available to them and hence leave unchanged the relative profitability of agricultural and non-agricultural activities as well as different activities within the agricultural sector.

Since credit provides general command over resources, it cannot easily be tied to the production of particular goods. Diversion of loans to other than the prescribed uses by farmers has been found to be widespread whenever audits of credit use have been carried out.^{19/} Even diligent and costly programs of credit supervision have failed to eliminate diversion and, in any case, are based on the dubious assumption that supervisors know better than farmers what farmers should be producing and how they should be producing it.^{20/} More

^{18/} See especially Von Pischke and Adams, [1980].

^{19/} Few of these studies have been published because they are typically carried out on a confidential basis by international lending institutions.

^{20/} See Lipton, [1976] for a strong attack on credit supervision from a somewhat radical perspective.

subtle and pervasive than outright diversion is the case in which the farmer presents the lender with his most attractive undertaking, one which would be carried out even if a loan were not received, and then uses the additional resources obtained with the loan for some unspecified activity. Such behavior is especially likely for relatively wealthy farmers who, as mentioned above, obtain the lion's share of bank agricultural credit in Costa Rica and who most often have a variety of activities both inside and outside the agricultural sector.

As indicated above, Costa Rica underwent a major financial reform in late 1978, so that the pattern of credit allocation for 1979 deserves special attention, even though information on credit for individual crops is not yet available. The main element in this financial reform was a substantial increase in some interest rates and a complete freeing of others from Central Bank control. However, certain interest rates, especially for activities within the agricultural sector, have continued to be fixed at low levels. Small farmer loans continue to be made at 8 percent per year and short-term loans for seasonal crops at 10 percent, while certain livestock activities are financed at preferential rates, but mostly above 10 percent. Interest rates on loans from the financiera sections of the commercial banks are uncontrolled and have ranged from 20 to 25 percent during 1979, while the rate on loans from the banks' commercial sections continues to be set by the Central Bank, but at a rate which varies according to the London inter-bank rate, and has fluctuated somewhat below 20 percent during 1979.^{21/}

^{21/} Costa Rican commercial banks are divided into departments, among which the most important are the commercial and financiera sections.

The interest rates paid on time deposits also vary according to the London inter-bank rate and have ranged around 15 percent during 1979, while no interest is paid on demand deposits and the rate on savings deposits is fixed at 8 percent. As might be expected, time deposits grew rapidly during 1979 relative to both demand deposits and savings deposits. Given the structure of Costa Rican commercial banks, this has implied more resources available to the financiera sections to be lent at higher uncontrolled rates compared to the resources available to the commercial sections to be lent at lower preferential rates (either fixed or flexible). This relative lack of resources for the commercial sections could, of course, have been offset by Central Bank lending or by borrowing from foreign sources. In fact, these sources were used heavily during 1979 as domestic credit from the Central Bank to the commercial banks more than tripled, while the Central Bank almost doubled the foreign resources channelled to the commercial banks, and the commercial banks themselves increased their direct borrowing from foreign sources. The foreign resources helped to offset the large deficit in Costa Rica's balance of trade, but more significantly almost all of these resources went to finance Costa Rica's large government deficit, as commercial bank lending to the public sector almost tripled during 1979.

The net result of the interest rate reform, together with the foreign borrowing and the government's deficit, was that commercial bank credit to the private sector increased very little even in nominal terms during 1979 and actually declined in real terms. Moreover, all of the increase was in high interest rate loans from the financiera sections, as loans outstanding from the commercial sections to the private sector were virtually the same at the end of 1979 as at the end of 1978. Agriculture fared somewhat worse than the rest

of the private sector. Its share of bank credit outstanding to the private sector fell from 43.5 percent at the end of 1978 to 41.5 percent at the end of 1979, while its share of new loans disbursed was 37.1 percent during 1978 and 35.3 percent during 1979. Agriculture actually increased its share of credit from the commercial sections and maintained its share of credit from the financiera sections. However, agriculture has traditionally depended heavily on the commercial sections and only lightly on the financiera sections, so that the substantial decline of the commercial section relative to the financiera sections led to the overall decline in bank credit to the agricultural sector.

It is too soon to evaluate the impact of these changes on agricultural production because production figures for 1979 are still preliminary and figures on bank credit by crop are not yet available. However, the fact that the agricultural sector lost out relative to the rest of the private sector which in turn lost out to the public sector in credit from the banking system suggests some problems. The main problem for agriculture from the financial reform does not appear to be the higher interest rates, as the agricultural sector was able to maintain its share of credit from the financiera sections where allocation is largely based on borrower demand, but rather in the restriction of credit from the commercial sections which have traditionally been the main source of agricultural credit. A more complete interest rate reform which allows higher interest rates on commercial section loans could help to resolve this problem.

V. Conclusion

Costa Rican agricultural production has tended to stagnate during the 1970s, especially during the second half of the decade. Adverse government

price policies for the agricultural sector have contributed substantially to this stagnation. Although the prices of most agricultural products have risen in nominal terms during the 1970s, converting to real prices using the deflator for gross domestic product reveals much lower relative prices for most agricultural products at the end of the decade than at the beginning or in mid-decade. Government price policies for the agricultural sector have either ignored the reality of inflation or have attempted to combat inflation through agricultural price controls, and these have been costly policies in terms of agricultural output foregone.

The government may have been misled by making inappropriate international price comparisons based on the official exchange rate, comparisons which suggest that Costa Rican is an inefficient and noncompetitive producer for many of its main agricultural products. When the official exchange rate is adjusted for an over-valuation of at least 40 percent, Costa Rican producers are shown to be efficient and competitive in a variety of agricultural products which are not currently being exported or are even being imported. Thus, Costa Rica is not only foregoing agricultural output but is also wasting foreign exchange at a time of large balance of trade deficits. Moreover, government credit policies of subsidized low interest rates on bank agricultural loans have done little or nothing to offset the effects of adverse price policies. Because credit is fungible it cannot readily be tied to particular activities, and low interest rate loans do not change the relative profitability of different activities either inside or outside the agricultural sector. The main result of recent government credit policies has been to reduce the flow of bank credit to the agricultural sector in real terms, thereby complementing government price policies in their discrimination against the agricultural sector.

References

- Bacha, Edmar and Lance Taylor. "Foreign Exchange Shadow Prices: A Critical Review of Current Theories." Quarterly Journal of Economics. May, 1979. pp. 197-224.
- Balassa, Bela and Associates. The Structure of Protection in Developing Countries. Baltimore: The John Hopkins University Press. 1971.
- Banco Central de Costa Rica. "Cifras de Cuentas Nacionales de Costa Rica, Serie 1957-1977, Estimacion 1978." Departamento de Investigaciones y Estadistica. Seccion de Cuentas Nacionales.
- _____. "Cifras Sobre Produccion Agropecuario, 1967-1978." Departamento de Investigaciones y Estadistica. Seccion de Cuentas Nacionales.
- _____. Credito y Cuentas Monetarias, Various issues.
- Liga Agrícola Industrial de la Cana de Azucar. "La Agricultura e Industria de la Cana de Azucar en Costa Rica." (LAICA), Noviembre de 1979.
- _____. "Informe de Labores y Movimenta Economica." LAICA, Enero de 1980.
- Lipton, Michael P. "Agricultural Finance and Rural Credit in Poor Countries." World Development. July, 1976, pp. 1-60.
- Lizano, Eduardo. Agricultura y Desarrollo Economico. San Jose, Costa Rica: Editorial Universidad Estatal a Distancia. 1980.
- Ministerio de Agricultura y Ganaderia. Boletin Estadistico Agropecuario, Various issues.
- Officer, Lawrence H. "Purchasing Power Parity Theory of Exchange Rates: A Review Article." International Monetary Fund Staff Papers. Vol. XXIII No. 1. March, 1976. pp. 1-60.
- Schuh, G. Edward. "The Exchange Rate and U.S. Agriculture." American Journal of Agricultural Economics. Vol. 56, No. 1. February, 1974, pp. 1-13.
- Stein, John P. "Costa Rica's Beef Export Quota: How It Functions and Might Function." Associated Colleges of the Midwest, Central American Field Programs. San Jose, Costa Rica. August, 1969.
- U.S.D.A. Economics, Statistics and Cooperative Service. "Agricultural Prices." Washington D.C.: U.S. Government Printing Office. Annual summary for several years.
- Vargas, Thelmo, Claudio Gonzalez-Vega y Alberto Di Mare. El Seguro Agropecuario en Costa Rica. San Jose: La Academia de Centro America. 1979.

- Vogel, Robert Cross and Claudio Gonzalez-Vega. Agricultural Credit in Costa Rica. Associated Colleges of the Midwest and U.S./A.I.D., San Jose, Costa Rica. July, 1969.
- Vogel, Robert Cross. "The Effect of Subsidized Credit on the Distribution of Income in Costa Rica." Paper presented at the Rocky Mountain Council for Latin American Studies, Tucson, Arizona. April, 1977.
- Von Pischke, J. D. and Dale W Adams. "Fungibility and the Design and Evaluation of Evaluation of Agricultural Credit Projects " American Journal of Agricultural Economics. Vol. 62, No. 4. November, 1980. pp. 719-726.

2nd Session: Rapporteur's Report and Discussion

Exchange Rates, Pricing Policies and Credit Policies

1. Exchange Rates:

There is a danger that holding a local currency fixed in relation to those of its major trading partners in the face of rising domestic inflation will create a drift from real price situations. When the drift steadily overvalues a currency then, in the countries in question, this causes the following:

i) imported food appears cheaper.

II) exported agricultural products appear dearer.

Thus the agricultural sector is penalized as it may appear less efficient than it is in reality. Therefore Governments should establish the machinery for on-going realistic evaluation of exchange rates.

2. Subsidies:

In times of economic stress the continued viability of both the agricultural sector and credit institutions servicing this sector is of importance. Subsidies may be applicable. These may be direct (on prices and interest rates) or indirect (provision of infra-structure). The temptation to subsidize small farmers' production activities by subsidizing interest rates on loans should be resisted. In certain cases a strategically aimed subsidy on output, or even on inputs,

may be applicable but, in general, indirect subsidies such as providing farm services, (e.g. research and extension) and, strengthening the viability of institutions providing such services are likely to be the most satisfactory type of help for the small-farmer sector. (For example, subsidizing the initial costs of an institution, for the establishment and operation of a well-developed branch network). In general indirect, infra-structural subsidies (marketing services, irrigation networks, feeder roads, etc.) lead to less distortions than direct subsidies on prices (including the price of credit). In favourable times, with the right technology, there is no case for a subsidy. Credit institutions should seek to direct investment to those enterprises/farmer-borrowers which promise the best return.

3. Pricing Policies:

Pricing policies which result in cheap food for consumers penalize the farming sector and make credit-financed investment difficult. Both the farmer and agricultural bank suffer. The danger is that the producing sector will contract, shortages ensue and price controls become impossible to enforce.

4. Productivity of Agriculture:

When a farmer's terms of trade are favourable and productivity of resource use is good then his borrowing is likely to be of benefit both to him and to the lender, and vice versa.

Terms of trade and productivity are affected by:

- a) input prices;
- b) product prices;
- c) nature of the enterprise (risk and uncertainty involved);
- d) farmer's skill as a manager and in general his command of resources.

Credit institutions cannot easily influence (a) and (b). However, they can directly choose to whom they lend and for what. Therefore, they can control (c) and (d) provided they are prepared to do so and that they have the necessary expertise.

Issues Surrounding the Design and
Performance of Small Farmer
Credit Programs: A Review
of the Jamaican
Experience

by

Douglas H. Graham

November 1980

Paper Prepared for the Caribbean Agricultural
Credit Training Committee (CATCOM)
Senior Management Workshop in Georgetown, Guyana
November 17-20, 1980

I. INTRODUCTION

The experience of small farmer credit programs in Jamaica during the 1970's illustrates many of the classic dilemmas faced by these programs in most LDCs. This paper discusses these experiences but, in so doing, the reader is reminded that the performance of the Jamaican small farmer credit institutions and programs are replicated in many other LDCs and the critiques and discussion that follow should not be thought only relevant to the Jamaican case. The paper is organized into four sections. First a brief overview is made of the performance of the economy during the seventies. Second, the relative scope and role of the small farmer credit initiatives in the larger rural financial market setting is established; third a specific analysis of the three major small farmer credit programs is offered and finally we conclude with a set of recommendations to restructure and revitalize the rural financial markets in Jamaica. Throughout the paper attempts are made to distinguish between the issues of performance in the real economy. This issue is important since the factors and policies conditioning the performance of the economy in general and the agricultural sector in particular are crucial determinants of the performance of rural financial markets and programs.

II. ECONOMIC STAGNATION IN THE 1970's

During the late sixties and early seventies, the Jamaican economy registered respectable rates of growth (six percent for

real Gross Domestic Product) although this was not true of the agricultural sector which declined at an average annual rate of four percent. From 1973 onwards, however, a severe economic recession set in. Total real gross domestic product decreased by 2.8 percent per annum between 1973 and 1978, negative growth being recorded in each of the last five years. Key sectors such as mining, manufacturing, construction, and commerce declined at average annual rates of three percent, seven percent, 10 percent and eight percent, respectively. The agricultural sector was the only productive sector to experience positive growth (three percent per annum) over the same period.

This dismal growth experience was associated with sharp contractions in domestic savings and investment. Domestic savings which averaged 17 percent of gross national product in between 1965 and 1970, averaged only 10 percent between 1971 and 1975, becoming negative thereafter. Though foreign investment helped to boost real national savings early in the decade, real net capital formation contracted almost continuously from J\$250 million in 1970 to J\$29 million in 1977.

The growing deficit in the balance of payments has had a seriously debilitating effect on the economy. Net foreign reserves fell from J\$130 million in 1974 to minus J\$196 million in 1977 to place Jamaica on the verge of international bankruptcy. A sharp, prolonged decline in export earnings combined with an inability to reduce imports sufficiently led to this state of affairs. Domestic inflation also accelerated during

this period, largely as a result of the growing public sector deficit and rising import prices. Annual inflation rates (using the Consumer Price Index as the measure) rose from 9 percent in 1972 to 48 percent in 1978.

"Stagflation" affected the financial sector. Government debt increased substantially as a proportion of commercial bank assets (from 11 percent in 1970 to 33 percent in 1977). Commercial banks increased their holdings of government securities because the decline in aggregate demand and credit ceilings reduced private sector demand for bank credit, and because legal liquid assets reserve requirements were periodically increased. Interest rates, ranging between two percent and 12 percent on bank deposits, and seven percent and 12 percent on government securities during the past five years, did not keep pace with inflation. Negative real rates of interest ranging between eight and 40 percent prevailed. Consequently, savers have subsidized borrowers.

In summary, the Jamaican economy experienced a long economic recession since 1972. Exports declined, balance of payments deficits grew, and inflation rose to unaccustomed levels contributing to a negative real rate of interest situation in which savings have been penalized and borrowing subsidized. The agricultural sector, however, has been the one principal area experiencing some degree of positive growth although scarce and imported agricultural inputs raised costs to farmers during this period.

The extent to which substantial credit flows contributed to the favorable Jamaican agricultural performance is a matter of some controversy. The main thrust of this analysis is that fundamental weaknesses were evident in the design and operation of the public sector credit programs. These weaknesses along with the general economic disequilibrium undermined the effectiveness and viability of rural credit programs in Jamaica.

III. THE NATIONAL RURAL FINANCIAL MARKET SCENE

A. Growth

There have been five major formal sources of agricultural credit in Jamaica throughout the 1970s: the commercial banks; the Agricultural Credit Board; the Jamaica Development Bank; the Self-Supporting Farmers Development Programme; and the Crop Lien Programme. Commercial banks are the largest single source of credit to the agricultural sector. This credit is largely short-term and goes to medium sized and larger farmers with good credit ratings and limited risks. In more recent years the commercial bank network has extended loans to large government agricultural cooperatives such as the sugar cooperatives which bought out the former large sugar estates that had been in private hands.

The remaining agricultural credit sources are public sector institutions or programs. The oldest of these public institutions is the Agricultural Credit Board created in 1960. This institution has two portfolios: one serving larger farmers

through direct loans; the other aimed at small farmers and channeled through the national network of small people's cooperative banks. Loans in both cases are largely short-term and seasonal and, in the case of the people's cooperative banks, includes small loans as well.

The Jamaica Development Bank began making large, medium to long-term "development" loans to essentially medium to large farmers from 1969 onwards. The Small Farmer Development Programme was also established in 1969. It makes medium to long-term loans to much smaller farmers than those serviced by the Jamaica Development Bank. Limitations on farm acreage, gross sales and assets have created a clientele for the SSFDP that can best be characterized as medium sized farmers. Finally, there is the Crop Lien Programme created by the government in 1977 and administered by the Ministry of Agriculture through their extension agents in conjunction with the people's cooperative banks which disburse these loans. Crop Lien loans are strictly small, short-term and seasonal, limited to domestic foodstuff producers and focused on small farmers with little or no previous loan experience.

Table 1 summarizes the growth of formal agricultural credit through these five major sources. Although loans outstanding in nominal terms grew almost seven-fold in eight years, this increase was only two times in real terms, reflecting the inflationary erosion of the capital base for agricultural lending. The large rise in loans outstanding between 1974 and 1975

(Table 1) is partially due to a change in the Bank of Jamaica's classification of agricultural loans reported by commercial banks in 1975. Some kinds of loans which had previously been reported under distributed trades and other sectors were hereafter listed as agriculture. It is estimated that slightly less than half of the net increase in loans outstanding from 1974 to 1975 were due to this change in classification (Graham, Bourne and Begashaw, 1978, Ch. IV). In 1978 there was practically no change in the amount of credit in nominal terms, and a pronounced contraction in real terms.

B. Institutional Changes

Table 2 permits an insight into the changing roles of the several institutions and programs comprising the agricultural credit supply network during the 1970s. The sources are classified into the farm size categories that most typically reflect the majority of their portfolio. From this profile it can be seen that large farmers benefited handsomely from the agricultural credit initiatives in Jamaica during the 1970s. Commercial banks and the Jamaica Development Bank increased their relative portfolio substantially until 1977 while, at the other end of the spectrum, the small farmer oriented Agricultural Credit Board Peoples Cooperative Bank program lost ground markedly. In 1977 and 1978 there was an improvement in the credit status of small farmers. Two factors accounted for the later shift: first, the Crop Lien Programme was established and people's cooperative bank credit expanded; second, commercial

banks reduced their lending to agriculture. The Crop Lien Programme was the largest source of credit increase during that year, eclipsing the customarily dominant role of commercial banks within the total portfolio. No doubt the substantial erosion of the older small farmer credit line through the Agricultural Credit Board-PC network had caused sufficient concern and grievances that a new initiative and program was felt necessary to redress this imbalance. Unfortunately this initiative led to substantial problems of default.

In addition to the large vs. small farmer profile depicted in Table 2, there is a foreign vs. domestic resource division that merits discussion. A large proportion of the loanable resources of the Jamaica Development Bank and the Self-Supporting Farmers Development Programme come from foreign sources (i.e. the World Bank and Caribbean Development Bank in the former case and the Inter-American Development Bank in the latter case). Domestic sources are almost exclusively geared to short-term seasonal loans (through commercial banks, the Agricultural Credit Board and Crop Lien Programme) while foreign resources are earmarked for medium to long-term developmental loans (the Jamaica Development Bank and the Self-Supporting Farmers Development Programme). In 1970, the rural financial market expanded to include the new, internationally financed Jamaica Development Bank and the Self-Supporting Farmers Development Programme. Whereas in 1969 they played no role whatsoever, these institutions were the most rapidly growing sources of

funding for agricultural credit between 1974 and 1978. The role of international resources was crucial to the expansion of total credit supply during the 1970s, and more importantly, indispensable towards lengthening the term structure to include developmental financing. However, growing problems of delinquency and declining foreign exchange earnings raise serious questions as to whether Jamaica will be able to secure new international financing for these activities or, for that matter, even service the current debt obligations incurred on past loans from the international agencies.

C. Performance

It is useful to assess the performance of the system as a whole. Column 2 of Table 3 underlines the fact that total credit has been rising substantially as a percent of gross domestic product since the early 1970s. This reflects the growing rate of inflationary financing in the economy through substantial increases in the money supply. Agricultural credit per se slightly declined as a proportion of total credit (panel A, col. 1). However, from 1975 to 1977, it has been growing more rapidly than total credit. (For reasons cited earlier on pages 5 and 6, the only unambiguous trends are those from 1970 to 1974 and from 1975 to 1977.) The agricultural credit/agricultural GDP ratio (col. 3) increased from 32 to roughly 37 percent in the earlier subperiod and from 56 to 63 percent between 1975 and 1977. This rising average ratio of agricultural credit to agricultural gross domestic product

implies an even higher marginal agricultural credit-agricultural GDP ratio. As a result of the credit slowdown (col. 1, Table 3), the average credit ratio decreased substantially in 1978.

The ratio of agricultural credit to agricultural GDP has been rising in recent years because of the "deadwood syndrome." Many of the loans outstanding are deadwood, that is, in permanent default on the one hand, and very likely permanently diverted to non-agricultural uses on the other hand. The high and rising credit/GDP ratio when combined with high and rising delinquency strongly suggest that farm loans are either not being applied to agricultural activities or, are being applied inefficiently when compared to earlier years. Given the growing stagnation in the economy as a whole, it is possible that much of this credit may be leaking out of the economy as capital flight as well as into real estate, land and other inflationary hedges. This indicates the need for a reform of the credit strategies adopted in recent years.

The final issue warranting discussion in this section is the "implicit subsidy" built into the current credit programs. Panel B of Table 2 present estimates of the real rate of interest for agricultural credit. The average interest rate charged for agricultural credit (from a low of three to seven percent in government programs to 13 to 14 percent in commercial banks) is clearly below the average rate of inflation (col. 2 vs. col. 1). The net result is a negative real rate of interest (col. 3) which in recent years has been rising dramatically.

Furthermore, if one multiplies the real rate of interest times the agricultural credit/agricultural GDP ratio one can estimate the implicit credit subsidy as a percent of agricultural GDP. Column 5 shows that in 1978 this reached 9 percent, a high level by any standard.

Thus, not only does credit appear to be increasingly used in an inappropriate (i.e. non-agricultural) or inefficient fashion, but also the beneficiaries or borrowers are enjoying a sizable subsidy. The social costs of this credit strategy could be substantial if, as indicated earlier, relatively large borrowers form an important part of the credit portfolio. This calls for a more detailed evaluation of the performance of the major institutions and programs comprising the national system of agricultural credit in Jamaica. The remainder of this paper, however, will concentrate on the small (and medium sized) farmer credit programs, their performance and their major problem areas.

IV. SMALL FARMER CREDIT PROGRAMS IN JAMAICA:
PERFORMANCE AND PROBLEMS

Prior to discussing each small farmer program separately, it is helpful to clarify the degree to which these programs have penetrated the small farmer scene in Jamaica. Separate field studies by a UWI-OSU research team suggest that this spread is still limited in many areas of the island. Based on a large sample of farmers in Northern St. Catherine that statistically represented close to 3,000 farmers, only 22 percent of the surveyed farmers had any form of formal credit in the last five years. In a comparable region in Southern St. Elizabeth representing a farm population of 1,000 farmers, only 18 percent registered access to formal credit in the same period. These are predominantly small farmer regions and were chosen precisely to determine, among other things, the degree to which small farmer areas have been reached by formal credit. Between 75 to 80 percent had never had access to formal loans in the last five years. The results show that this access is limited, even in the face of a large effort to reach these farmers with the Crop Lien Programme.

Secondly, it is important to point out that many of these farmers, though excluded from the formal credit market, are still active in loaning and borrowing funds and in savings activity as well. In both these areas informal credit activity reached 65 percent of the total sample. Moreover, the total dollar amount of informal loans was considerably larger than

the total dollar amount of formal loans through all the loan programs (and commercial banks) recorded in the area. Savings activity was also high with roughly 40 percent of the farmers in these two areas holding a formal savings instrument in the last year. Finally, off-farm employment was widespread among these small farm households with almost one-half of the farmers surveyed being active in part-time off-farm work. More than one-third of the farmers stated that off-farm income was more important than farm income in total family income. Moreover, it is interesting to note that roughly 85 percent of the farmers engaged in off-farm employment also were involved in either formal or, more importantly, informal credit activity. Thus, in summary, small farm households in the Jamaican setting, although not widely reached by formal credit programs, have alternative means of generating liquidity, namely informal sources from friends and neighbors and, to an important extent, off-farm income from their off-farm employment. These informal and off-farm income sources diminish (and access to formal sources increase) as farm size increases. The foregoing illustrates the way in which small farmers live and function within a setting in which their access to more formal lines of credit is limited. Furthermore, it would appear that these sources of liquidity are sufficient to generate a respectable level of savings, given the large number of farmers who either hold savings deposits or make loans to other farmers. With this as a background it is useful now to review the three major efforts to provide small farmer credit on the island. In so doing,

attention will be limited to the more important issues and problem areas in designing and administering these programs rather than getting involved in any extensive detail on their historical background or organizational structure.

The ACB-PC Bank Network

The People's Cooperative Bank network (numbering some 115 small branches scattered throughout the island) dates back to the early 20th Century. From 1960 onwards the Agricultural Credit Board (ACB) has been the principal source of government funds allocated to these small banks. The loans allocated through this network are generally small in size (from several hundred up to 2 to 3 thousand dollars), largely for seasonal production loans. Local bank committees along with the PC Bank manager and, on occasion, a loan officer from the ACB review loan applications which are then processed through the central office of the ACB in Kingston. After review and approval in Kingston the loan funds are then granted from the ACB revolving fund and allocated out to the branch in question for disbursement to the farmers. Loans are granted at 6 percent interest to farmers with the branches expected to repay the ACB at a rate of 3 percent, thus leaving a margin of 3 percent to cover lending costs at the branch level.

Several important features stand out in this loan program which can be summarized as follows:

1. These institutions do not engage in any savings mobilization activity except for the relatively inconsequential "share" contributions (i.e. 2 dollars) required from the farmer. No savings deposit function exists. Thus, these farmers deposit their savings in branches of commercial banks (from whom they do not receive loans) while receiving loans from the PC Banks.
2. As a result of no. 1 above, the PC Banks are used as "retail" outlets for centrally generated funds. Given the vicissitudes of government funds and budget constraints these funds are not a constant flow but rather vary markedly creating uncertainty at the field level about the reliability of future funds.
3. The PC Banks have frequently been used as the retail arm for disaster relief as well as for the more normal revolving funds. Disaster relief has frequently been structured as loans, though farmers invariably consider them grants, thus complicating loan recovery and, in part, injecting a grants mentality for the normal portfolio as well.
4. Local accounting and bookkeeping procedures at the branch level are frequently rudimentary, confusing and/or non-existent in many important respects. Questionable practices at the branch level have induced the ACB to intervene and manage some branches with their own management for varying periods of time.

5. Examples of deficient reporting can be seen in not having arrears records based on amounts due. Instead, arrears are merely recorded in aggregate absolute dollar amounts at the central office but not associated with a time profile of arrears on amounts due. At the branch level such a measure could alert bank managers to the problem areas and problem farmers in their loan portfolios. Other data useful for reference and easy to record would be loans made by enterprise or crop-type and by loan size. Unfortunately many PC Bank managers and their assistants are not sufficiently trained to engage in any systematic documentation of loan information that can be used to monitor loan performance or help in the analysis of loan problems. This, in turn makes it difficult for the central office to prepare up to date annual reports with detailed loan performance data.
6. Loan recovery is a perennial problem in all the PC loan portfolios. High arrears rates are common representing close to 40 percent of the loans outstanding in 1978. No ratios or rates are available on the amounts due. Loan recovery is compromised by the difficulty and expense involved in enforcing contracts and prosecuting delinquent borrowers in the courts. While some of the more astute and determined PC Bank managers diligently pursue this effort for some of

their most serious arrears cases, they frequently encounter difficulties in collecting.

7. The fixed interest rate of 6 percent on all loans is unrealistic and counter-productive in the face of rising inflation of 20 to 30 percent per year. The costs of administering loans rises with the general rise in prices yet loan recoveries are eroded through a decline in their real value. Farmers are enjoying a negative real rate of interest (i.e. a subsidy) while the PC Banks and the ACB are suffering from a growing cost squeeze which in turn demands further government subsidization.

What emerges from this picture of the PC Bank network is a government subsidized loan program that would have little chance of survival if it had to depend on its own loan recoveries, particularly with the current low nominal rate of interest. This is an extensive network that the government has found convenient to use to disperse disaster funds in the past or to retail new funds such as the Crop Lien Programme. At no time was there ever a serious effort to prepare any of these institutions to mobilize savings locally and in part reverse the top-down centralized role of merely being a retail agent for government funds.

In all fairness to the PC network and to some of the diligent administrators in the ACB that try to manage the declining revolving fund within tight budgets, many PC Banks are still

generally well regarded in their communities. The loan committees are drawn from the local farm communities and, one can find cases where determined bank managers work tirelessly to protect their loan portfolios, lecturing the loan committees for more careful loan appraisals, badgering delinquent farmers to the point of prosecutions and carefully husbanding their loan recoveries by investing them in local savings deposits of commercial banks (rather than returning them to the Central ACB office). In doing this they can have a local source of funds for relending without resorting to the uncertain ACB dispersals from Kingston. This latter tactic suggests that greater decentralization rewarding local initiative and responsibility, combined with a local capacity for mobilizing savings and a more flexible interest rate policy to cover lending costs might go a long way in helping some of the better managed PC Banks to mature into more complete and viable lending institutions that would be less dependent on outside subsidized support.

The Self Supporting Farmers Development Programme (SSFDP)

The SSFDP represented a major change in the approach to small to medium farmer credit delivery systems in Jamaica. This is your classic supervised credit program. Introduced through the ACB back in 1969 and then transferred to the Jamaican Development Bank (JDB) in 1974, the SSFDP gains its funds through low interest loans from the InterAmerican Development Bank (IDB). The Jamaican government contributes budgetary support to help

cover the high overhead costs associated with the technical assistance component of the program. Loan rates to farmers are at 7 percent while the IDB charges a 3 percent interest charge.

Four features stand out in the design of this program:

- (1) medium to long-term investment loans geared to changing the production function (i.e. modernizing) on its clients farms;
- (2) a large technical assistance component is built into the loan to promote and then monitor this technical change;
- (3) thirteen regional offices dispersed throughout the island act as the major points of loan monitoring and technical supervision; and (4) small to medium sized farmers from 5 to 25 acres are the principal target group serviced by the program.

These features stand out in contrast to the shorter term, seasonal loans that characterize the ACB-PC system. Also, the technical assistance component built into the loan contract was a new approach in the Jamaican small farmer setting. Whereas the ACB-PC Bank loan program generally serviced existing farm technology and practices, the SSFDP was designed to introduce technical change and changed farm practices. As one would expect the average loan size was much larger in the SSFDP portfolio than in the ACB-PC portfolio, ranging from roughly 4 to 5,000 dollar loans up to 40 to 50,000 dollar loans. Finally, the average farm size was generally larger. Whereas, the ACB-PC system generally serviced farmers in the 3 to 10 acre range, the SSFDP was largely servicing a portfolio (in terms of the distribution of the value of its loan capital) from 10 to 25 acres.

The operational performance, successes and remaining problem areas are summarized below. Again it should be emphasized that the problem areas identified here are characteristic of most supervised credit programs and not limited to the Jamaican program alone.

1. Field studies strongly suggest that the SSFDP has been successful in promoting new production technology and new enterprise types on their clientele farms. At the same time there has been an apparent increase in output and net worth of the farms serviced. The foregoing would suggest that there has been only limited credit diversion to non-agricultural uses, a common problem in non-supervised credit programs.
2. The SSFDP has the lowest arrears rates of all the public sector credit programs on the island probably reaching 15 to 20 percent for the amounts due. Of this amount a large part may be associated with the earlier farm customers from 1969 to 1974 when disbursement was too rapid and the loan appraisal and loan monitoring responsibilities were not as effective as in the post-1974 period. Still it should be pointed out that the program still does not structure its accounting procedures in such a way as to be able to determine easily arrears on amounts due. It would be in the interest of the program to do this, not only to detect potential problem clients earlier in the life of the loan (and

take corrective measures with the farmer) but also to clarify the degree to which the current aggregate arrears rates is primarily a result of the earlier non-JDB chosen farm clientele (as is commonly believed) and how much a result of the more recent farm clientele.

3. With the exception of the above noted deficiency the data collection and accounting skills and efforts in the program are superior to those in other public sector programs. Information on the farmer is more extensively recorded and, one would assume, loan monitoring therefore more effective than in other programs. The two areas in which improvement is called for is in the collection and presentation of the arrears data (as noted in no. 2 above) and a redesign of the bookkeeping procedures to first determine the true lending costs incurred by the institution and, secondly, associate these costs with specific program functions (such as technical assistance; regional vs. central office activity, loan collection and recovery activity, etc....). If data could be collected and recorded in this fashion, officials could engage in a more analytical study of the current and potential problem areas that need to be dealt with.
4. The SSFDP illustrates the classic trade-off between relatively low arrears and high supervisory costs and high arrears and low or no supervisory costs. The SSFDP program falls into the former category while the other

public sector credit programs on the island (whether servicing large or small farmers) fall into the latter category.

5. Item 4 above raises the question as to whether the broader social or economic benefits of supervisory and especially technical assistance (increased farm output at lower cost) outweigh or justify the high administrative costs of offering this supervisory role. First because the program cannot "internalize" these benefits (i.e. it is society at large that receives these benefits of increased farm output at lower unit costs) does not mean they shouldn't incur the higher initial administrative costs to generate these benefits. Crucial here is a more detailed evaluation of the technical assistance role through independently contracted surveys of the farm clientele to resolve essentially two issues: (1) the degree to which technical assistance is relatively all that important in generating the recorded increases in output and changes in farm practices; and (2) the degree to which the loan monitoring and loan recovery efforts are important in keeping down the arrears rates.
6. Common to most supervised credit programs, the SSFDP is an incomplete financial institution in that it is entirely dependent on outside funding and has not engaged in any savings mobilization activity. Given the

decline in outside funding and the increased uncertainty and variation of these sources, and, given the presumed success of the SSFDP farm clientele in increasing their income, a logical strategy to gain more self reliance and independent control of one's activities would be to broaden the mandate and role of the program to include the mobilization of savings from these farmers. This would lower the costs of receiving funds from outside, increase institutional viability and autonomy and draw the farmer into a closer and more complete identification with the institution.

7. Consonant with any effort to make the SSFDP a more complete financial institution (as noted in item 6 above) is the need to balance its asset or loan side with more short-term loans to service its farmer clientele. This would also allow it to offset and service the short-term savings deposit function discussed above as well as meet the legitimate farm need for working capital to use in conjunction with implementation of its investment loan.
8. The graduation syndrome is another important issue in supervised credit programs. To what extent should the SSFDP encourage its more established and secure customers to leave their portfolio and try to "make it on their own" (i.e. through more loans from commercial banks while the program concentrates on incorporating

into their program new and riskier farmers who may need more supervisory help? The "turnover" or graduation of farmers out of the SSFDP portfolio has not been studied nor, I suspect, considered as an important function for the program. Given the time and effort invested in these more successful farmers, no institution will want to lose them since their overall performance record might suffer with higher arrears rates and a higher administrative cost load with the riskier and newer clientele. Finally to the extent that the SSFDP chooses to become a more complete and viable lending institution (as discussed in items 6 and 7 above) it would want to keep these customers in its portfolio.

9. Finally a more flexible interest rate policy is called for in this program as in the ACB-PC Bank program. Lending costs have increased with inflation which would suggest that a higher rate is called for to re-establish the previous spread or margin in former years. At the same time the purchasing power of the loan portfolio gained through loan recoveries will decline with inflation if negative real rates of interest prevail for any period of time. Furthermore, to the extent that the SSFDP is concerned about gaining more autonomy, relying less on outside funding and possibly incorporating a savings mobilization role, realistic and flexible interest rates are necessary to protect the real value

of its portfolio which would now be more dependent on successful loan recoveries.

In summary, the role and performance of the SSFDP program illustrates many of the problems of public sector small farmer credit programs. In addition, its supervisory and technical assistance role creates a set of additional issues and potential problem areas that other public sector credit programs do not experience. The two most important issues noted above that need more informed discussion and analysis in the Jamaican setting are the degree to which the supervisory functions within the SSFDP are justified and, second, the degree to which this program should transform itself into a more complete lending institution in order to better prepare itself for a future with less outside funding.

The Crop Lien Programme

The Crop Lien Programme, introduced in 1977, represents yet a third effort to create a small farmer credit delivery system in Jamaica, one that has turned out to be the most controversial of the three. In contrast to the previous two programs, this effort was initiated and controlled in a non-financial institution - the Ministry of Agriculture. The stated motive for this initiative was to service the short run seasonal credit needs of the Emergency Production Plan, a program set up in 1977 to relieve the growing balance of payments constraint on the importation of foodstuffs. Thus the purpose

was to promote domestic foodstuff production of vegetables, legumes and root crops to replace the import of cereal products. The Ministry felt the existing credit programs were too large farmer oriented; not directed towards the import-substitution of domestic foodstuffs and not reaching a sufficiently large number of small farmers.

In 1977 roughly 10 million dollars were allocated to this effort, the largest single source of credit for agriculture during that year. By 1978, under growing criticism and budgetary constraints this was cut in half. Succeeding allocation in 1979 and 1980 have been less than 5 million dollars. The operational design, performance and growing controversies surrounding this program can be summarized as follows:

1. The program did reach a relatively large number of farmers during its first year, roughly 27,000 with loans ranging from as low as 200 to a high of 4,000 dollars. This misled Ministry officials into believing that this was responsible for the large increase in domestic foodcrop output in 1977 and 1978. However, their own statistics show that many of these farmers had extremely small acreages harvested. The increase in food output was much more a function of the output of the much larger number of farmers and acreage in foodstuffs not in the program and, even more importantly, a result of two years of unusually good rainfall following the droughts of 1974-76.

2. Wholesale delinquency was the single most visible and controversial performance indicator of the program. Less than 5 percent of the farmers repaid their seasonal production loans two years after its inception.
3. Key operational features that led to the widespread delinquency were:
 - a) far too rapid disbursement of funds
 - b) perfunctory loan appraisals
 - c) use of extension agents, who hitherto had never dealt with credit activity, to act as loan appraisers.
 - d) no collection effort made with voluntary compliance expected.
 - e) use of the ministry as loan source created image this was another subsidy program.
 - f) no collateral required
 - g) farmers feeling that arrears would bring no effective sanctions.
4. Farmers appear to be dissatisfied with this program and voice complaints about being forced to grow crops they otherwise would not have chosen to gain the first installment and their incurring fairly high transactions costs to attempt to gain second installments frequently without success. PC bank loans are invariably rated more favorably as a loan source by farmers surveyed in the Crop Lien portfolio. The PC bank loan program had a more established presence and role in the farmer

communities, did not require specific crops to be grown, allowed a greater role for the farmer in influencing loan terms and issued their loans in time for effective use compared to the Crop Lien administration.

5. Several important negative externalities were incurred in the operation of the Crop Lien Program such as:
 - a) compromising the performance of the PC banks portfolio since they were forced to retail the Crop Lien loans after the extension agents approval. This took PC staff away from the monitoring of their own loan portfolio and, at the same time, the "grants mentality" generated by the Crop Lien Program may have affected their own loan recoveries.
 - b) extension agents were drawn off of their traditional functions to act as credit agents, a task they were ill-suited for, with a consequent morale problem emerging.
 - c) the wholesale failure of loan recovery added to the government deficit exacerbating inflation and stabilization efforts.
 - d) the recent transfer of the Crop Lien Program into the JDB may create greater problems for the SSFDP program to administer their own portfolio while at the same time being forced to inherit a delinquency-ridden portfolio.

The Crop Lien Program could stand as a testament as to how not to design a credit program. Unfortunately the potential for disaster was not foreseen in its initial design and administration. It would appear that many of these lessons have still not been learned in that political pressure has persisted in an attempt to restructure and continue the program in some new format.

The two greatest social costs incurred in persisting in this effort in a new guise is the potential damage this program could do to one of the more successfully run credit programs on the island (i.e. the SSFDP) and, secondly, the high opportunity cost incurred in not using the resources devoted to the Crop Lien effort to address directly many of the important bottlenecks and problem areas affecting the economic rate of return to agricultural activity in Jamaica. Activities that come to mind here are a better financed research effort, an up-graded extension service and an improved marketing structure among others.

V. CONCLUSIONS

The performance history of the three small farmer credit programs illustrates the difficulties of attempting to reach the small farmer with formal lines of credit. Several lessons emerge from this experience. First, within the given constraints of risk, political interference, interest rate policy and limited organizational and administrative skills none of these programs are viable in the sense that they could maintain their current credit portfolios in real terms and cover their costs with their loan recovery record. They all have to be heavily subsidized.

Second it is clear that loan administrative procedures are rather perfunctory in two of the programs and very expensive in the third (i.e. SSFDP). At the same time loan monitoring and collection procedures are weak to non-existent in two and expensive in the third. Even if one accepts the premise that some element of subsidy is necessary and justified, it is clear that these programs should attempt to measure and consider the true lending costs they are incurring in trying to service these farmers. Only through an effort that quantifies and clarifies the relative proportion of these costs (as a percent of the loans issued) as well as identifying the incidence of these costs by program or administrative function can the institutions or programs in question appreciate the need for requiring a larger spread in their borrowing and lending rates of interest to protect themselves and/or economize on the more costly program elements.

Third, high delinquency is one of the most costly elements affecting the viability of all three programs. Arrears measures based on amounts due rather than on credit outstanding is a crucial piece of information needed to prevent early-on the potential for the rapid deterioration of a program's portfolio. This argues for much more careful and intelligently designed data collection efforts than those typically associated with these programs.

In addition to these more "micro-oriented" administrative reforms within programs, there are important "macro-oriented"

considerations that have been touched on in this review. Important here is the frequent but misleading idea that "supply-leading" credit programs can resolve the more deep seated real economic problems lowering the economic rate of return to agricultural activity. Throwing more credit into the farm sector will do little to resolve the problems of low or declining productivity or the risks associated with farming. The budgetary allocations used to subsidize credit operations could very likely have a higher social rate of return to society if they could be redirected (or a good portion thereof) towards improved research on better seed varieties; discovering more efficient farming systems for small farmers; more secure and less risky marketing infrastructure, etc... The opportunity cost of short-changing these efforts in order to subsidize short-term credit needs (with all the credit diversions implicit here) is high.

Furthermore, it is counterproductive to penalize agriculture with overvalued exchange rates, subsidized food imports and price controls on foodstuffs and then attempt to offset this with subsidized credit. If the incentives are not in place to allow the farmer to use his credit productively, he will either experience a low rate of return and loan recovery, or he will divert this credit to non-agricultural uses.

Two final elements of reform also require a change in the mind set typically operating in the credit field: a more flexible interest rate policy and efforts at savings mobilization.

In the face of persistently higher inflation, a more flexible interest rate policy is required to cover lending costs and prevent the enormous rise in subsidy to farmers associated with negative real rates of interest. There is no way a program can maintain the real value of its portfolio if interest rates are fixed while inflation rises. Finally a greater effort should be made to restructure interest rates (and engage in other incentives) to encourage the domestic mobilization of savings. Surveys have shown that many more small farmers hold savings instruments than have credit. A program that encourages savings mobilization could have a more favorable impact on income distribution than subsidized credit, and at the same time, allow these institutions greater self-reliance and autonomy from government interference and dependence on uncertain foreign funding. This would require that these institutions and programs would have to become more complete financial intermediaries (or at least some of them) and retool and train themselves for the future with a broader set of responsibilities than they have undertaken in the past.

TABLE 1

Total Loans Outstanding to Agriculture in Jamaica In
Current and 1970 Dollars: 1970-1977

Total Agricultural Loans Outstanding In Current Values
And In 1970 Dollars (End of Year Balances)

<u>Year</u>	<u>Current Values</u> (J \$000)	<u>In 1970</u> <u>Dollars</u> (J \$000)
	(1)	(2)
1970	25,320	25,320
1971	30,557	28,558
1972	35,162	32,141
1973	49,005	37,041
1974	60,060	34,817
1975	112,743	55,731
1976	136,715	61,088
1977	165,821	65,207
1978	167,821	51,605

Sources: Statistical Digest (Bank of Jamaica, various years);
Monetary Statistics (Department of Statistics), various years;
Annual Reports of the Jamaica Development Bank,
Self-Supporting Farmers Development Program.

Note: The Implicit GDP deflator was used to correct for inflation.

TABLE 2

Selected Data on Loan Activity by Farm Size
and Source of Loans in Jamaica
During the 1970s

A. Percentage Distribution of Total Agricultural Loans
Outstanding at End of Year by Farm Size Categories
and Source for Selected Years in Jamaica

Farm Size and Sources	Years				
	1971 (1) %	1974 (2) %	1976 (3) %	1977 (4) %	1978 (5) %
I. <u>Large Farmers and</u>					
<u>Cooperatives</u>	45.8	60.8	77.4	72.0	68.2
(a) Commercial Banks	39.1	44.2	60.2	54.4	48.8
(b) ACB-Direct Loans to Farmers	4.7	4.2	3.0	2.9	3.4
(c) Jamaica Dev. Bank	2.0	12.4	14.2	14.7	16.0
II. <u>Medium-Sized Farmers</u>	13.2	16.2	11.5	12.7	14.9
(a) Self-Supporting Farmer Development Program	13.2	16.2	11.5	12.7	14.9
III. <u>Small Farmers</u>	40.9	22.9	11.0	15.2	16.9
(a) ACB--Peoples Coop. Banks Loans	40.9	22.9	11.0	9.5	9.9
(b) Crop Lien Program (Min. Agric.)	--	--	--	5.7	7.0
TOTAL (%)	100.0	100.0	100.0	100.0	100.0
TOTAL (J\$MN)	30.5	60.1	136.7	165.8	167.8

B. Percentage Distribution of the Annual Change in Loans
Outstanding to Agriculture (from January 1st to 31st
December) by Farm Size Categories and Sources for
Selected Years in Jamaica

	Years				
	1971 (1) %	1974 (2) %	1976 (3) %	1977 (4) %	1978 (5) %
I. <u>Large Farmers and</u>					
<u>Cooperatives</u>	54.9	76.0	80.2	46.9	-221.2
(a) Commercial Banks	36.0	37.2	47.2	27.4	-453.7
(b) ACB-Direct Loans to farmers	8.3	2.5	2.3	2.4	46.9
(c) Jamaica Dev. Bank	10.6	36.3	30.7	17.1	185.6
II. <u>Medium-Sized Farmers</u>	36.7	17.2	16.8	18.2	159.5
(a) Self-Supporting Farmer Development Program	36.7	17.2	16.8	18.2	159.5
III. <u>Small Farmers</u>	9.2	6.9	3.0	34.8	161.5
(a) ACB-Peoples Coop. Bank Loans	9.2	6.9	3.0	2.9	38.9
(b) Crop Lien Program (Min. Agric.)	--	--	--	31.9	122.6
TOTAL (%)	100.0	100.0	100.0	100.0	100.0
TOTAL (J\$MN)	5.2	11.0	24.0	29.1	1.9

TABLE 3

Credit Ratios and Implicit Credit Subsidy For
The Jamaican Agricultural Credit System in Recent Years

A. Credit Ratios

Year	Agricultural Credit/ Total Credit	Total Credit/ Total GDP	Agricultural Credit/ Agricultural GDP
1970	7.8	27.2	32.3
1971	7.6	30.8	30.7
1972	6.4	31.5	33.0
1973	6.8	41.2	38.2
1974	6.5	41.2	36.9
1975	9.1	46.7	55.9
1976	8.9	55.3	60.1
1977	9.9	61.1	62.6
1978	7.8	62.1	53.2

B. Estimates of Real Rate of Interest for Agricultural
Credit and Implicit Credit Subsidy As Percent Of
Agricultural GDP

Year	Rate of Inflation	Avg. Nominal Interest Rate Agric. Loans	Real Rate of Interest (Col.2-Col.1)	Agr. Credit/ Agr. GDP	Credit Subsidy as % of Agric. GDP (1)
1975	15.7	10.0	- 5.7	55.8	3.2
1976	8.2	10.0	+ 1.8	60.1	0
1977	14.0	10.0	- 4.0	62.6	2.5
1978	27.9	10.0	-17.9	53.2	9.3

Sources: Statistical Digest (Bank of Jamaica), various years;
National Income and Product (Department of Statistics),
various years.

Notes for Panel C: (1) Subsidy as a percent of Agric. GDP is estimated by taking the proportion of total outstanding agricultural credit to total agricultural GDP (column 4) and multiplying this by the negative rate of interest (column 3). For this exercise, the appropriate measure of inflation is the implicit GDP deflator.

REFERENCES

1. Dale W Adams and Douglas H. Graham, "A Critique of Traditional Agricultural Credit Projects and Policies," ESO 621, June 1980, Department of Agricultural Economics and Rural Sociology, The Ohio State University, to appear in Journal of Development Economics, 8(1981).
2. Girma Begashaw, "Evaluation of a Supervised Credit Project in Jamaica," unpublished Ph.D. dissertation, Department of Agricultural Economics and Rural Sociology, The Ohio State University, August 1980.
3. Compton Bourne and Douglas H. Graham, "Funding and Viability of Rural Development Banks," ESO 720, Department of Agricultural Economics and Rural Sociology, The Ohio State University, April 1980, to appear in Savings and Development No. 4, 1980, IV.
4. Compton Bourne and Douglas H. Graham, "Economic Disequilibrium and Rural Financial Market Performance in Developing Economies," ESO 725, Department of Agricultural Economics and Rural Sociology, The Ohio State University, June 1980.
5. Compton Bourne, "Government Foreign Borrowing and Economic Growth: The Jamaican Experience," ESO 726, Department of Agricultural Economics and Rural Sociology, The Ohio State University, May 1980.
6. Compton Bourne, "Jamaica and the International Monetary Fund: Economics of the 1978 Stabilization Program," ESO 729, Department of Agricultural Economics and Rural Sociology, The Ohio State University, May 1980.
7. Douglas H. Graham, Compton Bourne and Girma Begashaw, "Rural Financial Markets in Jamaica: Analysis of Performance, Problems and Recommendations," report to USAID/Jamaica, October 1978.
8. Douglas H. Graham, Peter J. Heffernan and Stephen K. Pollard, "Farm Household Credit Behaviour: A Case Study of the Jamaican Experience," ESO 670, Department of Agricultural Economics and Rural Sociology, The Ohio State University, November 1979.
9. Douglas H. Graham and Compton Bourne, "Agricultural Credit and Rural Progress in Jamaica: A Development Dilemma," Workshop on Rural Financial Markets and Institutions, Wye College, England, June 1979 in Lenders and Borrowers, ed. by John Howell, Overseas Development Institute, (London), 1980.

10. Stephen K. Pollard, "Estimation of the Demand for Credit Among Small Farmers in St. Elizabeth, Jamaica: A Production Function Approach," unpublished M.S. thesis, Department of Agricultural Economics and Rural Sociology, The Ohio State University, June 1980.

3rd Session: Rapporteur's Report and Discussion

Issues Surrounding the Design and Performance
of Small Farmer Credit Programs:
A Review of the Jamaican Experience

Dr. Graham introduced his paper by first referring to the recent economic decline in Jamaica which conditioned the overall performance of rural financial markets. He then outlined the growth of agricultural credit in real terms and the changes in the percentage shares of the major credit sources over time. Attention was drawn to the high ratio of agricultural credit to agricultural gross domestic product which implied substantial credit supply and possibly credit diversion and inefficient use of credit. Dr. Graham pointed out the substantial implicit interest rate subsidy in dollar terms and in relation to agricultural GDP.

Specifically on the small farmer credit programs, limited out-reach of these programs was noted, and attention directed to the high activity of small farmers in formal savings and in informal credit. The participation in formal savings, Dr. Graham argued, would indicate that reasonable rates of interest on savings are a better way of helping many farmers than cheap credit which only reaches a few. The significance of off-farm employment as a source of farm income was also highlighted, as were some of the ways of measuring effective loan demand, and the fact that borrower transaction costs were high and exceeded explicit interest charges on loans.

Dr. Graham then described and appraised the operations and performance of the ACB-PCB programs, the SSFDP, and the Crop Lien Program in terms of their loan volumes, loan recovery experience, loan appraisal and accounting procedures (especially arrears measures), interest rate policies, and their provision of technical services and credit supervision. His main conclusions are (1) that none of the programs are viable and all require heavy subsidies; (2) loan appraisal procedures are perfunctory in the ACB-PCB and the Crop Lien Programs and very expensive in the SSFDP program; (3) high delinquency is one of the most severe problems; (4) supply leading credit programs cannot resolve the more fundamental problem of uneconomic rates of return in agriculture; (5) there is a need for interest rate reform and for savings mobilization by rural credit programs; (6) agricultural development banks should develop macroeconomic and agricultural sector indicators to further assist in the appraisal and monitoring of agricultural loans.

The discussant, Mr. Headley Brown, while commending the paper, raised some points for further discussion. He suggested that the number of feasible borrowers is smaller than the total number of farmers recorded by national censuses in which case the outreach of the credit programs is greater than Dr. Graham intimated. Also, adverse trends in agricultural input and product prices set a limit to feasible interest

rate reforms. Mr. Brown questioned the extent of commercial bank involvement in the financing of agricultural production. Another important issue raised was the feasibility of credit programs absorbing the high costs associated with extensive credit supervision and technical assistance. Mr. Brown suggested a third interpretation of the high agric: credit/ agric: GDP ratios, viz., that the credit volumes contained a large proportion of investment capital which should be related to several years GDP and not just one year's. The role of higglers vis-a-vis formal public sector marketing agencies and their link with loan recovery was also raised. Dr. Brown thought that given the limited produce dealings of public sector marketing enterprises, a crop lien system of loan recovery was not promising.

Commentators from the floor and Dr. Graham addressed several of the issues already raised. Among the more substantial additions made were the comment that the alleged inconsistency between commercial and developmental credit might be more imagined than real; that commercial banks do finance a substantial proportion of small farming indirectly through financing of producer associations who on-lend to their members through credit for land purchases, and through a new farm investment program.

Further, the positive role of the higglers should be recognized and consideration given to utilizing them more fully in the credit and agricultural system.

The desirability of structuring arrears data also by product type and length of the arrears period was recognized, as was the importance of suppliers credit in some Caribbean countries. The important role of the extension service was elaborated by several speakers. Weaknesses in the system of education, pecuniary incentives, and work environment were identified as reasons for the poor performance of extension services and for the failure of the extension agencies to retain staff. It was also suggested that greater emphasis should be given to strengthening the extension services as a means of improving the rate of return to agriculture even if this means less resources for farm credit.

The efficiency of credit supervision in reducing loan delinquency occasioned some debate. One opposing view is that it does, while the other view is that other factors pertaining to the character of borrowers, and the quality of the credit service are more important determinants of repayment performance.

Centralization of agricultural credit facilities was another issue raised. A few commentators felt that centralization generated cost economies, reduced loan delinquency, and enabled the use of credit as an instrument for technical

change. Against this, it was argued that experience in other countries showed that farmers regarded the emergence of credit monopolies as inhibiting.

GROUP LENDING EXPERIENCES IN
REACHING SMALL FARMERS

by

B. M. Desai
Visiting Professor

November 1980

Agricultural Finance Program
Department of Agricultural Economics and Rural Sociology
The Ohio State University
2120 Fyffe Road
Columbus, Ohio 43220

TABLE OF CONTENTS

	Page
Introduction.....	1
Rationale and Features of Group Lending and Cooperative Reforms.....	2
Functions of Group Lending.....	4
Results of Group Lending.....	5
Lender Costs.....	6
Scale Economies in Other Services.....	7
Default Risks.....	8
Borrower Costs.....	9
Concluding Remarks.....	11
Notes.....	13
Selected References.....	17

Group Lending Experiences in
Reaching Small Farmers

B. M. Desai*

Introduction

The rural poor in many low income countries (LICs) have received very little formal credit. To improve their share these countries have introduced one or more of such reforms as supervised credit programs, concessionary interest rates, special credit institutions, group lending, loan insurance, and credit reservation. This paper deals with the experiences of one of these reforms, namely group lending in the Dominican Republic, Ghana, Malawi, Bolivia, Philippines, Thailand, India, Nepal, Sri Lanka and Bangladesh. Based on the analysis of these experiences we attempt to show that the potential innovative¹ nature of this reform is greatly constrained by the simultaneous pursuit of policies characterized by the concessionary and inflexible interest rates, lack of balance in developing credit and other services, and the inadequacies in the performance evaluation norms for the bank staff. Before we present this analysis we briefly compare justification for and features of this reform with those of the cooperatives patterned after the Raiffeisen model.

* Visiting Professor, Department of Agricultural Economics and Rural Sociology, Ohio State University, and Associate Professor on leave from Indian Institute of Management, Ahmedabad, India.

Rationale and Features of Group
Lending and Cooperative Reforms

Both these reforms have been introduced to improve the rural poor's share in the formal credit. They have been chosen for both economic and non-economic reasons. But there are some important differences in the emphasis attached to these factors.

Cooperative reform, unlike the group lending, was prompted from a concern to organize a force to counter the usurious power of the village moneylenders.² Private commercial banks were not preferred because they were also considered implicit and indirect partners of the usurious rural credit environment. Unless an organization based on the village community participation was developed, it was believed the virtues of self-help, thrift, and modernized attitudes³ which are necessary to deal with the local moneylenders could not be promoted. This is not to suggest that the consideration of high costs and high risks of rural finance operations did not motivate the cooperative movement. Indeed, the features of administration by honorary management and local participation, unlimited liability of the members, and small and simple operations were to help reduce these costs and risks.⁴ Another feature was that these cooperatives were to receive state partnership in both equity-capital and administrative leadership.⁵

Group lending unlike the cooperatives had its immediate origin in the collateral related difficulties⁶ experienced by

the existing formal agencies in the rural financial market (RFM). Neither the clear and heritable land title nor the guarantee of the reputable third party nor the hypothecation of reasonably "assured" anticipated crops produced could be available from the rural poor. Under these conditions the rural poor's dependence on the informal credit agencies continued to persist. Even when these conventional collaterals were available they could not be used to foreclose the loan when necessary because of legal, political and economic difficulties in enforcing the contract. The joint liability principle of group lending was considered to act as a substitute for the conventional collateral. In some countries like Ghana, tangible collateral in the form of land or some other property was taken from one of the members of the group. Other members were required to sign a promissory note only. Peer pressure and collective responsibility were combined to reduce the default risks.

Because of such reliance on local participation and unlimited liability, this reform is sometimes considered a pre-cooperative concept. It must, however, be recalled that some of these features were more clearly applicable to the early cooperative movement. In the later period large sized societies with their limited liability were organized mainly to improve their financial viability by enlarging the scale of operations.⁷

But the concern to reduce costs of rural finance operations through group lending was also strongly shared. This was considered necessary to overcome perceived barriers to financial

intermediation between the rural poor and the formal lenders. This perception is based on three inherent features which characterize economic activities of the rural households. These are small size, riskier enterprises, and the mismatch between cash inflows and outflows. Even rural households perceived these as barriers to an entry in the formal market.⁸ Thus, what is not explicitly considered for this reform, unlike the cooperatives, is the motive to create a force to counter the village moneylenders. Similarly, state participation in equity capital was not considered, though this reform has also state assistance in the form of extension, input supplies, and more importantly concessionary refinance.

Functions of Group Lending

From the preceding it is clear that the immediate functions which group lending reform aims to accomplish are:

1. Reduction in the lender transaction costs;
2. Similar scale economies in the provision of related technical assistance and other services which promote productive use of additional liquidity resulting from a credit transaction;
3. Reduction in loan default risks on account of peer pressure and joint responsibility; and
4. Reduction in the borrower transaction costs.

Have these functions been realized, and what may explain the results of this experiment may now be examined. Before we

attempt this we must clarify that these questions cannot be uniformly examined for different countries. This is because in some of the countries group loans have been provided to those who did not have any access to formal credit. Though most studies have relied on informed judgements about the changes in lender costs, some have quantified both borrower costs and loan delinquencies. Some studies did not select non-group individual borrowers as a "control" to compare with the group sample. Some others though, selecting such a sample, did not test the differences between the two samples to attribute differences in their results to factors other than the borrowing status.⁹ Despite these differences, the results of the group lending experiment are remarkably consistent across the countries.

Results of Group Lending

When the above mentioned functions are satisfied, conceptually, there should result an expansion in this program. This expansion could be measured by the growth in the number of group accounts, and also in the average loan amount transacted.¹⁰ It can also be evaluated by quantifying the changes in the flow of credit in favor of the rural poor. Measuring performance in this manner would require time-series data on the implementation of this reform. Most country studies have utilized cross-section data for a year or two. Consequently, these indicators cannot be used. Alternatively, the results

could be evaluated by directly studying what has happened to each of the four functions. To this we now turn.

Lender Costs: All the country studies except the India study report that the financial institutions aimed at reducing their costs through this reform. The study on India reveals that the concerned bank did not pursue this aim, though it does report the bank's experience in this regard.¹¹ All these studies except Ghana and the Philippines report inconclusive results about these costs. The Ghana study reveals lower costs for group loans, while the Philippines study reports higher costs. However, the lender costs could be higher for group loans in most countries if the costs of forming groups and providing other services are also added to the conventional transaction costs of lenders. These other costs are invariably borne by agencies other than the lenders. For example, in the Dominican Republic both these costs are borne by the refinancing agency: the Dominican Development Foundation. In other countries costs of providing technical services are borne by the government and the society at large. The only exception is India where these costs are shared by the lender and the government. But in most countries costs of forming groups are shared by the lenders, borrowers and the government.

Lenders in the Dominican Republic, Bolivia, India and the Philippines have enjoyed scale economies in making group loans, though a similar advantage is not experienced in the collection of these loans. But the Malawi lenders seem to have experienced

this advantage. It is, however, not known whether the same holds for costs in making group loans. Such partial gains may not be enough to induce lenders to undertake other services. Ironically, however, the implied lender behavior of shifting costs to the government/society/borrowers does not prove beneficial to the lenders. This is because when these non-conventional lending costs are borne by others they cannot possibly promote corresponding gains by way of better loan recoveries and larger turnover of loanable funds. Instead of relying on others to form groups which are homogenous and similar to non-group borrowers, lenders themselves could do this by using the existing village organizations or traditional informal groups to reduce the costs by forming groups. Such responses are not found in most countries except perhaps in Nepal and Turkey. The implied myopic view of the lenders might have originated from the inappropriate interest rate policies. The discouraging influence of such policies gets compounded in an environment of high inflation rate, stagnant rural productivity, and agricultural input/output price distortions.

Scale Economies in Other Services: Most lenders have not seriously attempted to reap this particular benefit of group loans. Whatever such loans which have been administered by them have not resulted in "organizational good"¹² for non-credit services including savings mobilization. Indeed, these loans have been provided to give an access to credit alone.

The only exceptions being Nepal and Malawi where the lenders required in lieu of down payments, a deposit of 5 to 10 percent of the value of group loans as "security fund." These deposits carried interest earnings for the group. They were also used to cover shortfalls in the repayment of group loans. It is claimed that such additional "organizational good" derived by the group members in Malawi and Nepal have resulted in better loan repayments, besides the group solidarity and sustainance. However, these country studies do not provide any data to judge the costs of administering deposits in the manner just described. Similarly, the country studies do not give any clue as to the costs advantages to other agencies which provide non-financial services. In the absence of experiences in providing these services by the lenders it is not possible to assess the need for compensatory gain, besides the individual pay-off, to develop an "organizational good." The multi-functional role¹³ implied in providing other services including savings deposit collection may not have developed in most countries because of lack of appropriate incentives to the financial institutions.¹⁴

Default Risks: What is described so far about the two functions of group lending holds for this particular function also. The lower delinquency rate experienced in the initial years in the Dominican Republic did not sustain in the future. Even in Nepal and Malawi, if group loans were not tied with the deposit requirements, the delinquencies would be higher. Similarly, higher default rate of the group sample as compared

loan reform can be perceived differently by different members. To a relatively well-off farmer, a group loan may be a reward for patronage, while to a poor farmer it could represent an independence. When groups consisting of such farmers are formed they may not succeed. Even a comparatively homogeneous group is unlikely to sustain if its maximum size is not controlled¹⁷ as is the case in most LICs and if its members do not receive compensatory pay-offs, besides individual gains, from the collective responsibility. Providing such pay-offs to the group members may not be possible without undertaking a multi-functional role including savings deposit collection. And, to repeat, such roles cannot be performed when lender incentives are lacking.

Concluding Remarks

High transaction costs and high default risks are considered to be the twin problems of reaching small farmers in the RFMs. Both cooperatives and group lending reforms have been experimented with by many LICs to overcome these problems, though the former was also introduced to counter the force of the village money lenders.

By examining the experiences of group lending in some LICs this paper has shown that the potentiality of this reform in reducing the delinquency rates, lender costs and borrower costs do not seem to have been consistently realized in these countries. Partial gains either to the borrowers or lenders

would not sustain this reform. Such results could be attributed to policies which overemphasize concessionary and inflexible interest rates and underemphasize the provision of financial services other than credit. Like the cooperatives, again, group lending would not be able to improve the rural poor's access to the formal segment of the financial market, unless this policy imbalance is corrected.

NOTES

1. Financial innovation is conceptually defined as that reform which facilitates providing and/or acquiring financial services at lower transaction costs. In practice, as will be seen in this paper, such innovations for a product like "financial services" is difficult to achieve. This is because this product being fungible, divisible and homogenous in nature it can be used to shift the cost to any agent including government or society involved in the intermediation process.
2. To quote from a study on cooperation in developing countries, "A primary motive for establishing cooperatives in developing countries is the desire to end the exploitation of large parts of both the rural and urban population by usurious moneylenders" (Engelmann, 1968, p. 86). Also, see Hough, 1966; Catanach, 1970; Carroll, 1969; Flores, 1969; and RBI, 1954.
3. To quote from a study on Asia, ". . .the farmer is backward and hostile to innovation and that therefore he should be stimulated to change, through various means like cooperatives, . . .," (Etienne, 1969). Also, see Engelmann, 1968 and Catanach, 1970.
4. For example, see Schiller, 1967 and Belshaw, 1959.
5. For example, see Hough, 1966; Engelmann, 1968; and Singh, 1970.

6. Such difficulties can be of two broad types. One is related to the very size of the collateral, and the other is related to the quality of the collateral. The former has typically prevented term loan transactions, since size of farm owned by a farmer makes him eligible to borrow amounts smaller than required to purchase the farm assets like a well, a diesel engine or an electric motor. In some countries, under these conditions, full term loans are provided by pooling collateral from more than one farmer. Such loans are, however, not treated as group loans for the purpose of this paper.
7. See, for example, RBI, 1954.
8. For an extensive treatment of how these barriers retard financial intermediation in both informal and formal RFMs, see Desai, 1980(a).
9. These observations suggest a need for studies which are based on a firmer conceptual and methodological framework. For some illustrations on this for cross-sectional analysis, see Adams et al., 1979; Adams et al., 1980; Matienzo, 1978; and Desai, 1980(b).
10. Such a measure would follow from cost advantages to both the lenders and borrowers, assuming other things remaining the same. It is also implied when financial innovation is treated in the sense of causing "net" shifts in both loan demand and supply schedules. See Desai 1980(b) for this, and see Smith, 1971 for defining financial innovation in terms of shifters in the appropriate functions.

11. This study being a pilot study was restricted to only one branch of one of the 14 nationalized commercial banks which have experimented with group lending.
12. "Organizational good" is defined as that good which is not available unless the potential beneficiaries organize themselves to procure it.
13. The need to provide services other than credit arises from the fact that delivering credit in isolation of such other requirements as extension, marketing, depositing excess liquidity, etc. is self-defeating to the objective of improving incomes of the rural poor. It is also needed to effectively compete with the informal credit agencies which frequently embody these services in their credit contracts. This is not to suggest that formal agencies should undertake all kinds of other services. Basically, they should emphasize provision of commercial services. Making available credit and savings deposit services is fairly straightforward. But providing marketing services would require some innovations like promoting supply of working capital credit to one of the group members or a local merchant(s) who may also form a part of the group. Such dealer credit could be given not only to stock and purchase commodities but also to promote sales.
14. This could very well be the reason for the failure of credit cooperatives in becoming multi-purpose societies.

15. The repayment record for the Ghana program is reported to have improved in the subsequent years. This may partly be because of combining tangible collateral and peer pressure.
16. Such procedure implied obtaining signatures of all members on every loan application since they were guarantors for each other. It also additionally implied executing documents separately for all the members at the time of loan sanction. Even though the bank did not pursue the lower lender cost advantage through group lending, such a procedure is not justifiable since it increases borrower costs too.
17. This is necessary to accomplish better distribution of compensatory gains for a successful group action. See Olson, 1973.

with the non-group sample in India was more because the former cultivated low productivity crops and had distant proximity to the bank. Repayment record of group loans in most countries was poor even though the reform required the non-delinquent members to repay the loan of the delinquent members.¹⁵ In practice, most lenders found it difficult to enforce this requirement. This may be because of lack of legal sanction to the joint liability principle. More importantly, it could be because of lack of other "organizational good" for the group members. In the absence of such good the lenders cannot exercise any leverage to promote peer pressure as a substitute for the conventional collateral. Poor and delayed lender services have also lead to higher delinquencies in Bolivia, the Philippines and the Dominican Republic. Without appropriate lender incentives, neither the multi-functional role nor the better quality and timely services can be achieved.

Borrower Costs: Group borrowers enjoy cost advantages by saving fees for registering a collateral, formal and informal expenses to obtain the certificates needed with the loan application and by saving transportation and time costs of visiting the lenders. In the Dominican Republic and Bolivia, members of groups informally collected money to cover expenses for leaders who negotiated the loan. In some other cases these costs were shared by members by rotating the group leadership.

Most country studies except India and the Philippines report borrower costs to be lower for group loans. In the case

of India, the higher costs to group borrowers were, however, due to differences in the distance and technology factors rather than the differences in the borrowing status of the two samples. When these differences were accounted for, the borrower costs were lower for group loans than for individual mortgage loans. This cost advantage would have been still larger had the bank not required separate loan application from each member of the group.¹⁶ Even the lender would benefit from such change in the loan execution process.

In the Philippines the borrower costs were higher because of lengthy and complex loan procedures which necessitated the group borrowers to temporarily borrow from moneylenders at very high interest rates. While these borrowers in the Dominican Republic could benefit from the lower transaction costs, their gains would have been significantly larger had they received loans in time to avoid temporary borrowings from the moneylenders. But the complex and lengthy loan procedures would persist despite financial cost disadvantages to the lenders, again, because suitable incentives to the financial agencies are lacking.

Such loan procedures partly explains group members disillusion with this reform. This perception would also exist, despite lower borrower costs, when members are refused future loans because of delinquency by some other members or when members are forced to attend meetings without receiving compensatory gain besides the credit. Borrower gains from a group

SELECTED REFERENCES

1. Adams, Dale W and Jerry R. Ladman, "Lending to Rural Poor Through Informal Groups: A Promising Financial Market Innovation?," Savings and Development, Vol. 3, No. 2, 1979, pp. 85-94.
2. _____ and Alfredo A. Pablo, "Group Lending to the Rural Poor in the Dominican Republic: A Stunted Innovation," ESO #682, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio, January 7, 1980.
3. Alexander, M. C. and P. J. Scott, "The Implications of Group Credit for Rural Development in Malawi," unpublished paper presented at Eastern Africa Agricultural Economics Society, Iusaka Conference, May 1974.
4. Belshaw, Horace, Agricultural Credit in Economically Underdeveloped Countries, Food and Agricultural Organization of the United Nations, Rome, 1959.
5. Bhatt, V. V., "Interest Rate, Transaction Costs and Financial Innovations," paper presented to the Second International Conference on Research Issues in Rural Finance, held at Calgary, Canada from August 29-September 1, 1979.
6. Carroll, Thomas F., "Peasant Cooperation in Latin America," in A Review of Rural Cooperation in Developing Areas, United Nations Research Institute for Social Development, Geneva, 1969.

7. Catanach, I. J., Rural Credit in Western India, 1875-1930, University of California Press, Berkeley, Los Angeles, London, 1970.
8. Desai, B. M., "Rural Financial Market Barriers and Group Lending Innovation," ESO #745, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio, August 1980a.
9. _____, "Group Lending Innovation for Rural Areas: A Pilot Study," Indian Institute of Management, Ahmedabad, India, 1980b (forthcoming CMA monograph).
10. Doherty, Victor S. and N. S. Jodha, "Conditions for Group Action Among Farmers," Occasional Paper No. 19, Economics Program, International Crops Research Institute for the Semi-Arid Tropics, Hyderabad, India, October 1977.
11. Engelmann, Konard, Building Cooperative Movements in Developing Countries: The Sociological and Psychological Aspects, Frederick A. Praeger Publishers, New York, Washington, London, 1968.
12. Etienne, Gilbert, "Cooperatives and Related Institutions in the Agricultural Development and Modernization of Asia with Special Reference to India," in A Review of Rural Cooperation in Developing Areas, op cit., 1969.
13. Flores, Xavier A., "Institutional Problems in the Modernization of African Agriculture," in A Review of Rural Cooperation in Developing Areas, op. cit., 1969.

14. Hough, Eleanor M., The Cooperative Movement in India, Oxford University Press, 1966.
15. Ladman, Jerry R. et al., "Bolivian Rural Financial Market Assessment," report prepared for USAID/Bolivia by The Ohio State University, November 1, 1979.
16. Matienzo, Rodolfo M., "Repayment and Group Lending in the Province of Camarines Sur, Philippines, 1976-77," an unpublished Ph.D. thesis, Department of Agricultural Economics and Rural Sociology, The Ohio State University, 1978.
17. Meyer, Richard L. et al., "Agricultural Credit in Thailand," report to USAID/Thailand from The Ohio State University, May 1979.
18. Olson, Mancur, The Logic of Collective Action, Harvard University Press, Cambridge, Massachusetts, 1971.
19. Opoku-Owusu, Kwame and W. Tetteh, "Small Farmer Group Lending Programme in Ghana," a paper presented to the Conference on Rural Finance Research in San Diego, California, July/August 1977.
20. Pablo, Alfredo A., "Lending Activities Among Groups of Small Farmers in the Boneo Area of the Dominican Republic," an unpublished Master's thesis, Department of Agricultural Economics and Rural Sociology, The Ohio State University, 1979.
21. Reserve Bank of India, All-India Rural Credit Survey, Report of the Committee of Direction, Vol. II, The General Report, Bombay, 1954.

22. Schaefer-Kehnert W., "An Experience with Group Lending in Malawi," Quarterly Journal of International Agriculture, Vol. 19, No. 4, October-December 1980 (forthcoming).
23. Schiller, O., "Cooperation in Agriculture," in Handbook of Agriculture and Food in Developing Countries, P. von Blankenburg and H. D. Cramer (eds.), Stuttgart: Verlag Eugen Ulluer, 1967.
24. Singh, Mohinder, Cooperatives in Asia, Praeger Special Studies in International Economics and Development, Praeger Publishers, New York, Washington, London, 1970.
25. Smith, Paul F., Economics of Financial Institutions and Markets, Richard D. Irwin, Inc., Homewood, Illinois, Irwin-Dorsey Ltd., Georgetown, Ontario, 1971

4th Session: Rapporteur's Report and Discussion

Group Lending Experience
in Reaching Small Farmers

The author B.M. Desai, emphasized in his presentation the objectives of group lending: (1) to reduce default risk; and (2) to reduce administrative costs for borrowers, for lenders and for other institutions who might work with these groups. He concluded that the evidence from different countries on the success of group lending was quite varied. In some countries lender costs were actually increased by the procedures used, while in other countries costs were simply shifted from the lender to other institutions. Reductions in borrower costs were sometimes achieved through reducing fees on mortgages, but borrowers often complained of less adequate service in other respects. Default was generally not reduced by group lending, but the experience tended to be better when group lending was combined with group savings mobilization. In conclusion, the author emphasized that lenders shift costs to others because of perverse incentives resulting from the forms on concessionary lending and the lack of attention to other aspects of financial service by lenders.

The first discussant, James Trehy, a technical expert from the European Association for Co-operation working with

the Guyana Co-operative Agricultural and Industrial Development Bank, asked if this diversity of experience was relevant to the Caribbean nations. He also wanted to know what an ideal group lending system would be like. He then emphasized some of the advantages of group lending: (1) reaching borrowers not otherwise reached; (2) reducing lender costs; (3) reducing borrower costs and (4) avoidance of the problem of lack of collateral. He also emphasized the importance and difficulty of forming groups in the group lending process.

The second discussant, Audley Coulton of the Jamaican Agricultural Credit Board, emphasized some of the disadvantages of group lending: (1) costs to lender are often higher; (2) joint liability is often unequal and recovery is difficult because of the uncertain legal status of groups; (3) internal conflicts may cause groups to disintegrate and (4) groups reduce self-reliance and may also reduce incentives to obtain proper title to land.

In the general discussion, R.A.J. Roberts of F.A.O. asked if group lending was relevant to the Caribbean, given the direct personal contact of lenders with their clientele. Douglas Graham of Ohio State University asked if the Partners Groups in Jamaica could be the basis of informal groups to be used by formal lenders. Ian Whittaker of the Jamaican Development Bank argued that they could not because there was

not a significant element of trust and co-operation. Headley Brown of the Jamaican Development Bank agreed with Mr. Whittaker and added that there had not been much favourable experience with co-operatives or groups in the Caribbean.

John Yates of the Guyana Co-operative Agricultural and Industrial Development Bank said that group lending was often an institutional requirement forced on to the borrower. He said that his Bank is working on such programs using credit to bring farmers together into viable groups. He thought that it was particularly necessary for rice producers because of machinery costs, but added that there could be problems with groups if one individual becomes too dominant.

Calvin De Grasse of the Development and Finance Corporation of St. Kitts thought that Caribbean nations had already passed the level of development where group lending would be useful and that banks were reasonably accessible to borrowers on an individual basis. He thought it was most important to carefully identify the target population and supply what they need without moulding them into a group.

Ronald Baynes of Barclays Bank in Barbados, however, thought it might be better to allocate scarce resources to groups rather than individuals.

Dario B. Baez of the Agricultural Bank of the Dominican Republic said that conditions in the Dominican Republic were quite favourable for group lending. Small farmers are eager to form groups for a variety of activities and services, and approximately 30 percent of credit to farmers goes through groups.

B.M. Desai, the author of the paper, added some final comments. He mentioned the importance of the savings mobilization aspects of group lending and that implementation cannot be overlooked. He thought that lenders could devise ways to deal with the vague legal status of groups in collecting loans. He also mentioned the importance and difficulty of forming groups and the fact that centres to rent machinery services could be more attractive than group lending to deal with large investments.

In conclusion, he emphasized the basic issue of seeking a way to deal with making credit available to potential borrowers who are high risks and costly to serve. That is more important than the pros and cons of group lending per-se.

Issues of External Funding And The
Viability of Rural Development Banks

by

Compton Bourne
University of the West Indies

Paper Prepared for
The Caribbean Agricultural Training Committee (CACTCOM)
Senior Management Workshop
Georgetown, Guyana

November 17-20, 1980

ISSUES OF EXTERNAL FUNDING AND THE VIABILITY
OF RURAL DEVELOPMENT BANKS*

Governments of many less developed countries have established rural financial agencies as important instruments for rapid agricultural development. This paper examines some "funding problems" experienced by these rural development banks. It is argued that the credit operations and long run viability of rural development banks are affected by the sources of loanable funds. The basic funding problem confronting these institutions is to secure that volume and composition of loanable funds consistent with efficient credit operations and sustained growth of the financial institutions.

The rural finance literature, surveyed by Adams (1977), Lele (1974), and Lipton (1976), has devoted a great deal of attention to problems of credit disbursement, pricing and loan recovery. A consensus has emerged that distributional equity is not achieved by concessionally priced credit programs, that allocative inefficiencies result from interest rate subsidies, and that the financial viability of credit institutions is undermined by low nominal loan rates of interest, high lending costs, and by high rates of default, particularly among large farm borrowers. These conclusions have been derived from analyses of the assets of credit institutions.

* This paper draws heavily on my paper, "Funding Viability of Rural Development Banks" co-authored with Douglas H. Graham, and on my study of Public Development Financial Enterprises: A Case Study of the Jamaica Development Bank.

It is doubtful, however, that the performance of rural credit institutions and their viability can be divorced from considerations of their funding. The study of the liabilities or the inflows can improve our understanding of the credit operations of rural development banks, as well as identify additional factors germane to the sustained growth of rural financial markets. Such an analysis is the subject matter of this paper which is divided into five sections. The first section describes the main sources of funding, while the second and third sections examine the short term implications of external funding. The fourth section deals with the effect of institutional malperformance on future public external funding. The fifth section examines three ways of optimizing funding arrangements.

Empirical reference is made to the Jamaican Development Bank, a governmental credit institution established in 1969, largely at the initiative of the World Bank, for the purpose of extending development loans. Since development banks in other Commonwealth Caribbean countries have similar origins, funding patterns and operational features, more than a few of the conclusions derived here have wider applicability.

Conventional Sources of Funds: The JDB Case

Public sector rural development banks conventionally have two major sources of funds, namely foreign funds and domestic budgetary contributions. Foreign funds are occasionally grants, but more usually loans by foreign governments and by multilateral agencies. The governments of the United States, Canada, the United Kingdom and West Germany have made important contributions to the financing of

agricultural development through the medium of rural development banks in low income countries. Multilateral development agencies, particularly the World Bank, and regional development banks such as the Inter-American Development Bank have made sizeable loans to public and private development finance institutions serving rural communities in developing countries.

Table 1 describes the composition of the total annual inflows of financial resources into the Jamaica Development Bank from 1970 to 1977. Foreign sources accounted for 24 percent of these flows. Three external agencies accounted for the bulk of these foreign funds. The Inter-American Development Bank was the major single foreign source providing some 40 percent of foreign financial resources, followed by the World Bank with 25 percent, and the Caribbean Development Bank with 20 percent. Jamaica Government loans and capital subscriptions accounted for 52 percent of total inflows. From 1974 onwards, most of these financial transfers were in the form of equity. Loans from local banks accounted for only six percent of total resource inflows. Repayments of loans by Jamaica Development Bank borrowers accounted for as little as four percent. It is evident, therefore, that for the period as a whole, external agencies and the Jamaican Government were the main sources from which the Jamaica Development Bank received its funds and that repayment inflows have been insignificant. The percentage contributions of the individual sources of financing varied over time. For all years, however, Jamaican Government contributions and foreign receipts were the largest elements.

TABLE 1
Major Sources of Funds for the Jamaica
Development Bank 1970-1977

	Sources J\$ Million	%
Foreign	43.4	23.6
Jamaica Government	96.5	52.4
Jamaica Government Agencies	6.6	3.6
Local Commercial Banks	11.1	6.0
Repayments	6.6	3.6
Miscellaneous*	19.9	10.8
TOTAL	184.1	100.0

Source: Compiled from sources and uses tables and balance sheet statements in annual reports of the Jamaica Development Bank.

*NOTE: Decrease in bank balances and cash balances comprised 19 percent in 1972 and 26 percent in 1973. Decreases in investment in subsidiaries comprised 16 percent in 1974. These sources account for the large percentage share of "miscellaneous" over the period.

Similarly detailed information is not available for the agricultural sector portfolio specifically. However, the data obtained from the Bank's Annual Reports reveal that foreign funds comprised between 35 percent and 67 percent of the total agricultural loan portfolio. The World Bank, the Inter-American Development Bank, and the Caribbean Development Bank have supported the agricultural loan portfolio.

Implications of External Funding for Lender Behaviour

The sources and terms of obtaining financial resources can have a strong influence on credit policies and operational efficiency of banks. Donors (and local governments for that matter) often try to influence the behaviour of credit institutions in ways that can affect their viability. Funds obtained from foreign private financial institutions can also have behavioral implications for rural banks.

One important restriction by external donors is the specification of target groups and enterprises to be serviced by the banks. External funding agencies, while not generally stipulating the size and wealth characteristics of eligible farms, usually recommend types of enterprises that should receive favourable treatment. This kind of recommendation stems from their views about the catalytic roles of particular types of agricultural activity and about the suitability of these activities as instruments for technological progress, improved nutritional levels, and expanded rural employment. The rural credit agencies and their governments, generally incorporate these recommendations in their loan programs. This may be due to the fact that they share the developmental philosophy of donors or know

they can circumvent the restrictions, and for other reasons such as their own limited knowledge and experience in agricultural development and financial planning, their anxiety to obtain funding, and their perception of little negotiating space. The identification of target groups, emphasizing the adoption of modern technology, frequently results in loan portfolios biased towards labor-displacing imported capital goods, and towards larger farmers. These biases negate the employment and equity objectives articulated by both local governments and donors.

Following President McNamara's address to the Annual Meeting of the World Bank in Nairobi in 1973, official funding sources have sought to directly tackle the equity problem by devising small farm credit programs and preferential schemes. Potential political gains from small farm programs give governments another reason for promoting these types of programs. In practice, concessionary interest rate policies combined with the high unit costs of small farmer loan programs cause development banks to favour large farmers. Socio-political realities of rural communities and bureaucratic inertia frequently reinforce this tendency (Lipton, Blair). However, the main point is that the banks may be influenced by their funding agencies into servicing particular target groups which may not match their own loan management capabilities.

Another type of restriction concerns short period production loans. It has not been unusual for external donors to prohibit the financing of working capital requirements out of project funds. For instance, the Inter-American Development Bank and the World Bank

contracts with the Jamaica Development Bank contain such provisions. Underlying this kind of stipulation may be the belief that investment capital requirements should be accorded priority, that the private financial system can or should satisfy demands for working capital loans, or that the credit agency should fund its working capital loans from other sources. There are signs that the position of external creditors on working capital loans has become less rigid, as the following excerpt makes clear:

"In the initial stages of the transition to a more productive agriculture, access to short-term credit for purchasing fertilizer, improved seeds, pesticides, etc., is often of greater importance for small farmers than long-term credit. Accordingly, in the credit programs for small farmers, emphasis will be placed on short-term seasonal credit in the context of overall on-farm development planning. World Bank lending could provide a permanent working capital fund for this purpose which is rolled over and re-used from year to year. As the Bank loan or IDA credit is repaid, domestic sources of credit and capital can gradually replace external funds."
(World Bank, p. 19).

Following upon Adam's work (1971), the influence of external donors on interest rate policies has been more widely recognized. Recent events in Jamaica give support to findings in other countries. Foreign agencies provide funds at concessionary rates of interest and require the Jamaica Development Bank to onlend at concessional nominal loan rates which in real terms are either substantially negative, or close to zero when positive. Concessionary interest rate policies result in high loan administration costs and a bias towards large farmers. This worsens income distribution and undermines institutional viability. There is no doubt that external donors are aware of the

limitations of concessionary rates of interest for the financial sector, the rural economy, and for general economic development. The World Bank (1975, pp. 12-13) has discussed factors such as resource misallocation, wealth gains by larger farmers, losses incurred by lenders, and political corruption and abuse. At the same time, local governments perceive certain advantages in concessionary loan rates, using them to partially correct for the adverse terms of trade between agriculture and the rest of the economy, as hidden subsidies, and as convenient means of political patronage and manipulation. Consequently, while piecemeal and gradual interest rate reform is occurring in a few countries, progress towards interest rate policies that reflect the scarcity value of capital and the costs of funds tends to be slow.

Restrictions on lender behaviour are also associated with the foreign currency debts incurred by rural banks in their acquisition of foreign funds for onlending locally. The banks are usually required to repay their foreign debts in the currencies in which the debts are denominated. Since devaluation of the local currency will automatically increase the local currency value of debts denominated in foreign currency, foreign exchange risks are associated with the foreign currency debts of rural banks. Local governments sometimes assume these foreign exchange risks. However, it is not uncommon for external donors to stipulate that the sub-borrowers (i.e., rural bank customers) bear the foreign exchange costs associated with their loans, i.e., incur the additional local currency costs growing out of any future devaluations.

A few other short run aspects of the type of funding arrangements described in the previous section also merit discussion. To the extent that commercial credits to rural banks tend to be of short maturities, rural development banks may be predisposed to lend for quick gestation projects. The fact that this tendency counterbalances the bias towards long term loans created by external funds emphasizes the importance of harmonizing the sources and uses of funds and the desired loan operations of rural banks.

Further, unless there is a large rollover or debt rescheduling, the short maturities of their debt places considerable demands on annual inflows of new funds. Debt service and amortization consume large proportions of new resources thereby reducing that which is available for new lending to farmers. Between 1971 and 1977, total debt service and amortization payments by the Jamaica Development Bank averaged 20 percent of its annual available resources.

Another aspect of external funding pertains to the negative influence of a too rapid disbursement of funds on the quality of the loan portfolio. Both local governments and foreign agencies inject large amounts of financial resources into rural banks in the early stages of their operations, usually before well-functioning loan appraisal and monitoring systems are organized and staffed. Rapid growth of loan approvals and disbursements seriously burden these weak loan management systems and result in poor loan quality and high arrears ratios. These problems are compounded when funding agencies measure the performance of rural banks by the growth of their loan disbursements. Frequently, this is the only performance measure used in the early years when few loans fall due and

incipient arrears problems go undetected. In these circumstances, the banks themselves may yield to the pressure to approve and disburse as many loans as possible, sacrificing efficiency and loan quality in the process.

Implications for Loan Portfolio Performance

I have argued that external funding agencies influence the credit operations of rural banks. By so doing, they contribute to the loan repayment problems experienced by these banks. The analysis of the latter proposition will center on the possible implications of lender preferences for particular enterprises and inputs, the non-provision of working capital loans, and the policy on foreign exchange costs.

Debt financed expansion of farm enterprises increases the borrower's financial risks. Furthermore, farm liquidity is reduced by the act of borrowing itself. Some degree of self-financing is generally associated with debt-financed capital formation. Counterpart requirements imposed by lenders usually ensure that some of the farmer's own resources complement loan funds. In this way, some or all of the farmer's actual liquidity might be absorbed. Also, depending on the degree to which farm enterprises utilize their existing assets as loan collateral, there is a corresponding reduction of unutilized borrowing capacity or potential liquidity. The seriousness of the loss of potential liquidity is of course moderated by the degree to which farm enterprises can obtain unsecured credit. They often manage to do so but only in small amounts and at high cost from the informal rural credit markets. Paradoxically, liquidity is often scarcest during the period of greater financial risk when more liquidity is needed.

Farmers traditionally attempt to reduce financial risk by diversifying their output in order to stabilize gross income flows. The scope for stabilizing net income flows is greater to the degree that input use is sufficiently flexible to permit downward adjustment when warranted by product demand conditions and relative factor prices. Lender restrictions and preferences reduce the scope for these forms of risk minimization.

Lender preferences for particular types of enterprises will usually alter the optimal product mix of farm debtors (Hopkins, Barry, Baker, Ch. 8), by altering the effective rates of return on output. The possible outcome of stipulations concerning specific product types and pure stand cultivation is a lower level of product diversification, particularly with respect to those short-term cash crops which would not only create a greater degree of flexibility in product choice, but would also help to boost farm incomes in the early stages of the longer gestation projects which rural banks prefer. The technological bias implies that farmers adopting the lender-preferred technique of production might be locked into a situation where reductions in the utilization of capital goods cannot be efficiently made, and in which there is limited scope for substituting a cheaper factor, e.g., family labour, for more expensive capital services. Consequently there may be an increase in their vulnerability to falling product prices and to rising costs of capital services (especially important under conditions of exchange rate depreciation). Any pressure on net farm income might well put pressure on debt-servicing capacity and result in loan delinquency.

A farm enterprise can attempt to moderate temporary debt service difficulties by reducing its average propensity to consume, or more likely by attempting to obtain short-term credit. However, as we have argued earlier, rural development banks are not usually a source of short-term credit. Nor are such resources readily forthcoming from commercial banks that are the predominant mobilizers of local financial savings and the principal short-term lenders. Commercial banks in lesser developed countries employ quite restrictive credit criteria and portfolio preferences. These exclude most potential agricultural borrowers. Selective loan guarantee and rediscount schemes have not been successful in encouraging a greater volume of commercial bank credit to agriculture, since attempts to collect on defaulted or delinquent loans that are guaranteed involve expensive and time consuming legal procedures. A case can be made, therefore, for rural development banks to directly provide production loans. Where external funding agencies preclude the use of their project funds for working capital loans, the rural banks can nonetheless attempt to fill this credit gap by mobilizing local resources either by borrowing from the private financial sector or by directly providing a deposit service.

We turn now to the implications of the policy on foreign exchange costs. This centers around the question of who should bear the risk and the additional unpredictable rise in loan costs associated with fixed foreign currency obligations when there is a devaluation of the local currency. Raghavan (1980) has suggested several broad guidelines for allocating foreign exchange risk. He argues that the borrowing enterprise should be

required to bear the risk if it derives a scarcity value from imported producer goods or if interest rates are concessionary. However, since the foreign exchange proceeds of the loans confer a social benefit by adding to the import capacity of the economy as a whole, the foreign exchange cost should not be entirely allocated to the borrowing enterprise.

Essentially, these costs if borne by the farmer can be incorporated into the interest rate variable. An increase in foreign exchange costs reduces farm capital growth by reducing the net rate of return. The foreign exchange costs implied by the stipulations on exchange risk are uncertain in nature but do assume serious proportions in countries experiencing large and repetitive exchange rate devaluations. These costs are not easily absorbed by farmers under conditions of weak product markets.

Donor agencies have argued that with devaluation-induced increases in domestic farm product prices and with improved international price competitiveness, domestic sub-borrowers should be net gainers from repetitive devaluations and should therefore experience no great difficulty in repaying loans with the added devaluation costs. However, devaluation-induced increases in factor costs and the continuing price control policies for farm products erode these potential gains. As a result, the conditions assumed to be operative by donors are not readily satisfied at least in the short run. Severe debt repayment problems are more likely to result because of the abruptness of the exchange rate adjustment which raises debt costs immediately whereas the income effects of attempts to phase out price controls takes much longer. Some reconsideration of this policy seems warranted. It seems reasonable to assume that the rural banks, by virtue of the larger scale of their operations and by the adoption of loan pricing policies which include a small premium for exchange risk, can

better hedge against foreign exchange risks associated with foreign currency debt. It can also be argued that since exchange devaluation is the outcome of generalised economic disequilibria and is not attributable specifically to rural borrowers, that society as a whole should bear the costs. In such a case, government should accept the foreign exchange risks.

Another consequence of the foreign exchange stipulation under conditions of currency depreciation is an increase in the rural bank's risk exposure. The upward readjustment of the current local currency value of a loan is unaccompanied by a similar revision of pledged collateral. This implies that the existing collateral covers a smaller proportion of current loan value than the bank regards as prudent. In effect, the banks' risk exposure increases.

Feedback Effects on Public External Funding

Paradoxically, the financial problems which ensue from donor influences on rural banking might create problems of future external funding. The flow of funds from the donors might decline in response to one or more factors. Funding agencies as a matter of policy may wish to prevent continued reliance on their resources. More importantly, the arrears problem, typically disguised in the earlier years by extensive grace periods, becomes clearer as more loans fall due. This may result in the suspension of disbursements on existing loan contracts and a refusal to replenish resources by new contracts unless institutional reforms occur. The prospects for reform, of course, are conditional upon debt recovery and, at the same time, by the overall economic environment affecting the prospects for economic recovery, the restructuring of interest rates and the political environment influencing the prospects for foreclosures on collateral. Another possibility is that drastic shifts in the economic

position of governments of developing countries may induce a slowing down of disbursements and other financial sanctions by the donor agencies. In practice it is the first two which seem to be responsible for the decline in foreign resource flows to rural development banks in less developed countries.

Possible Means of Resolving Funding Problems

It has been contended that public external funding may seriously constrain the allocative and operational efficiency of rural development banks. One solution to this problem is to attempt to alter the operational criteria and loan preferences of the funding agencies themselves. Another solution is to develop new sources of funding that are not subject to the same limitations. The latter solution is analyzed in this section. Three methods of developing new sources of funds are examined, namely, deposits, bond issues, and earmarked taxes.

Public sector development banks do not usually accept deposits from the public. Nonetheless, there are potentially important gains to be derived from providing deposit facilities. The provision of these facilities removes a peculiar constricting feature of this type of financial institution, namely, that their credit operations and debt repayments do not themselves provide a steady return flow of funds to the banks as deposits. This is quite unlike the case of deposit-taking institutions, e.g., commercial banks, where expended credit balances and deposit withdrawals return partially at least to the financial institutions in the form of new deposits thereby ensuring no full and permanent leakage of loanable resources from the financial institutions. For rural development banks, which do not have deposit facilities, the leakage is both

full and permanent. Furthermore, deposits constitute a more general and diversified source of loanable funds. There is accordingly a greater degree of freedom from portfolio restrictions and control by funding entities. Additionally, the fact that the continued ability of a bank to attract deposits depends on potential depositors' confidence in the banks' financial management forces greater adherence to financial discipline. This can result in more efficient loan appraisal and more effective loan collections. Finally, where loan customers are also depositors, rural development banks have a potentially greater informational basis for monitoring the financial performance of their debtors.

In retrospect, it would appear more promising to incorporate a development bank portfolio within a well established commercial banking institution rather than the other way around. This would ensure financial discipline and effective monitoring of the portfolio from the very beginning. This latter point illustrates one of the most promising opportunities lost by donors and LDC's in the 1970s, namely, the incorporation of a small but viable and slowly growing long run development portfolio within a nationalized commercial banking network. Instead, donors and LDCs moved headlong into promoting separate limited service development banks which were ill-prepared to design, evaluate, disburse and monitor their loan portfolio with the insight, discipline and caution that a well trained and experienced commercial banking staff could have brought to the task.

Local and foreign bond issues are another mechanism for raising resources. Some external funding agencies such as the World Bank certainly see this option as a preferred one for national and regional development banks attempting to reduce their reliance on multilateral concessional funding. Both means of financing impose some degree of market

discipline on rural banks. The difficulties of international bond issues are well known. They include: (1) legal and other institutional barriers to entry into developed countries' capital markets; (2) the inability of lesser developed countries to satisfy the informational requirements for bond placements; (3) quantitative limits on foreign country issues in the domestic capital markets of the developed countries; and (4) discriminatory taxation of interest income derived for foreign bondholdings. Efforts at improving developing countries' access to capital markets in developed countries are currently being made at the international level (Development Committee, 1978). At the present time, however, one cannot hold out much hope for substantial foreign bond financing of national development banks.

Domestic bond issues are also subject to difficulties, low levels of private wealth, rudimentary capital markets, and financial risk aversion among households and corporations are characteristic of underdeveloped financial structures. Each constitutes a major barrier to successful bond issues. Private financial institutions which command most domestic financial savings tend to confine their equity investment to short-term and long-term government securities. Therefore, greater access to their resources can only arise through competition with central government financing or from policy measures that explicitly favour acquisition of development bank bonds. The Jamaican experience reveals that short-term budgetary requirements of the government may prevail over the financing requirements of public sector development banks. However, this need not be the case, and development banks may prove capable of bidding away financial resources from the recurrent budget.

Proposals are sometimes made to compel private financial institutions to acquire development bonds. Among the devices proposed are earmarking part of the proceeds of central bank legal requirements, and the imposition of legal requirements that private financial institutions invest directly a portion of their assets in development bank bonds. While providing for automatic growth of resources, these devices reduce financial discipline in rural credit institutions, and may reduce the overall efficiency of financial resource use.

An issue of optimal timing arises with respect to both deposit mobilization and bond issues by rural development banks. The ability of the banks to attract funds through either mechanism depends on the state of their financial portfolios. The tendency of rural development banks to experience serious arrears and liquidity problems implies that public issues of bonds or deposit acceptance are not likely to be particularly successful if they are attempted after the institutions' public image is one of financial mismanagement and near bankruptcy. In effect, a case can be made for the early adoption of these two financial mechanisms given the difficulty of doing so later, and the role they can play in instilling financial discipline at a crucial early stage of the institutional life cycle. As mentioned earlier, the issue of optimal timing for creating a stronger liability base can also be tied in with the issue of the optimal institutional method of incorporating a development portfolio in the young and imperfectly developed capital markets of LDCs. Building this portfolio within the institutional setting of a nationalized commercial bank may prove to be a more viable and self-sustaining institutional vehicle for promoting the growth of development financing in many LDCs.

At the level of governmental budgetary support, taxes can be earmarked for contribution to the rural development bank. This would essentially result in linking the growth of budgetary resources to the growth of fiscal revenues. However, like other forms of government budgetary support, it may result in political interference with credit allocation and loan collection operations, and in financial laxity.

Conclusions

Some important conclusions can be drawn from the foregoing analysis. First, public sector rural development banks are heavily dependent on local governments and external agencies for their funding. Local private sector financial institutions and loan recoveries within the rural banks themselves are not significant sources of loanable funds. Second, the influence exerted by public external funding on the lending practices of rural banks may contribute to the weakening of loan portfolio performance and overall financial viability of these banks. Third, none of the resultant portfolio decisions are necessarily consistent with allocative efficiency, distributional equity, or higher levels of rural employment. Fourth, the possibility that public external funds may contract as a result of those financial problems themselves threatens the long-run viability and growth of these banks.

These short and long period implications lead to the overriding conclusion that the sources of funding should be broadened to include less restrictive and more dynamic resource inflows. Three extensions, namely, deposit mobilization, bond issues, and earmarked taxes were examined briefly. Deposit mobilization and local bond issues are preferable and

are also potentially more successful methods of funding, provided they are initiated at a relatively early stage in a rural development bank's life-cycle.

However, once the banks have evolved into the classic resource crises discussed in this paper, the policy space for effective restructuring of resource inflows will have been severely reduced. In this case, no formula for reform and survival is easy to devise. Liability structures appropriately designed from the outset may prevent or moderate many of the short and long run problems typically experienced by rural development banks.

References

1. ADAMS, Dale W., "Agricultural Credit in Latin America: A Critical Review of External Funding Policy", American Journal of Agricultural Economics, 53 (1971): 163-172.
2. _____, "Policy Issues in Rural Finance and Development", Paper No. 1, Conference on Rural Finance Research, San Diego, California, July-August, 1977.
3. BLAIR, Harry W., "Rural Development, Class Structure and Bureaucracy in Bangladesh", World Development, 6, 1978: 65-82.
4. DEVELOPMENT COMMITTEE (WORLD BANK and IMF), "Developing Country Access to Capital Markets," Washington, D.C., 1978.
5. HOPKINS, John A., Peter J. BARRY, and C.B. BAKER, Financial Management in Agriculture, Danville, Illinois, The Interstate Printers & Publishers, Inc., 1973.
6. LELE, Uma, "The Roles of Credit and Marketing in Agricultural Development", in Agricultural Policy in Developing Countries, (ed.) Nurul Islam, London, Macmillan, 1974.
7. LIPTON, Michael, "Agricultural Finance and Rural Credit in Poor Countries," World Development, 4 (1976): 543-53.
8. RAGHAVAN, V.S., "Some Issues Relating to Financial Policies of Development Banks" in William Diamond and V.S. Raghavan (eds.) Aspects of Development Bank Management, Washington, D.C., Economic Development Institute, World Bank, March 1980.
9. WORLD BANK AGRICULTURAL CREDIT, Sector Policy Paper, Washington, D.C., 1975.

5th Session: Rapporteur's Report and Discussion

The Issues of External Funding Sources
and the Viability of Rural Development Banks

The author stated that constraints imposed on loans from international funding agencies result in weak performance of rural development banks; however, the commentator pointed out that the local window of rural bank operations perform much worse than funds provided by external agencies even though the local window does not have as stringent restrictions on use of funds. In the rejoinder, the author stated that the local window of rural bank operations is also frequently subject to many controls established by local governments which result in the same difficulties as funds from international lending agencies.

The author identified major external funding restrictions as target groups of borrowers, working capital restrictions, concessionary interest rate policy, foreign exchange risk and type of farm enterprises which introduce biases in the loan portfolio of rural banks. The commentator stated that target groups must be an integral consideration of development lending and that larger borrowers with easy access to commercial credit are usually excluded from concessionary loans by way of appropriate mechanisms (e.g. net worth criteria). International lenders require that working capital needs be met from local counterpart funds. The commentator accepted the

author's observations regarding the undesirable effects of subsidized interest rates.

The commentator pointed out the difficulties of convincing governments of the need to increase interest rates. The commentator agreed with author's conclusion that governments should absorb the foreign exchange risk. Increased borrower involvement in the preparation and design of projects could influence the type of enterprise financing.

The commentator pointed out that many of the difficulties which the author identified regarding the viability of rural banks are due to local institutional inefficiencies as well as inadequate assistance from international agencies which could strengthen institutions.

Commentator questioned whether local institutions can raise funds through deposits or bonds on the basis of their poor financial track record in current activities. The author agreed that an important link exists between the financial performance or viability of rural banks and the local capacity to generate deposits. In other words the financial viability of the rural bank must be practically guaranteed from the outset if the rural bank is to attract substantial amounts of local funds.

Other commentators generally agreed that more dialogue is needed between international lenders and rural banks to resolve issues such as procurement restrictions and inclusion of working capital as a legitimate component of the loans.

This is necessary because the rural bank which implements the international loan and experiences most of the difficulties in that implementation is generally not the agency or borrower which negotiates the loan.

It was noted that many rural banks have failed to serve the clientele which their charters required them to serve and that the rural banks need to re-structure their operations to the changing conditions they now face. Some international lending agencies are now providing technical assistance support to streamline and improve the capability of some rural development banks.

THE POTENTIAL FOR RURAL SAVINGS MOBILIZATION:
SOME EVIDENCE FROM LATIN AMERICA

by

Robert C. Vogel

Department of Economics
Syracuse University

and

Department of Agricultural Economics and Rural Sociology
The Ohio State University

Paper Prepared for

The Caribbean Agricultural Training Committee (CACTCOM)
Senior Management Workshop
Georgetown, Guyana

November 17-20, 1980

The Potential for Rural Savings Mobilization:
Some Evidence from Latin America

Robert C. Vogel*

Introduction

The view is widely held that the primary role of financial institutions which serve the rural sector in developing countries is to provide abundant credit at subsidized low rates of interest in order to promote agricultural output and to redistribute income toward the rural poor. However, there is increasing evidence that subsidized low interest rates on agricultural loans have failed to achieve these two objectives. Because credit is fungible, it is difficult and costly, if not impossible, to tie subsidized credit to specific agricultural activities.^{1/} In addition, recent studies focusing on the recipients of subsidized agricultural credit indicate that the main beneficiaries are not the rural poor, as credit is highly concentrated in large loans to relatively wealthy farmers.^{2/} The purpose of the present paper is not to pursue these arguments further, but rather to examine the issue of the abundance of credit, that is, whether some alternative to the current approach might not

* Professor of Economics, Syracuse University, and Visiting Professor of Agricultural Economics, Ohio State University.

1/ See J.D. Von Pischke and Dale W Adams, "Fungibility and the Design and Evaluation of Agricultural Credit Projects," American Journal of Agricultural Economics, November 1980.

2/ See Robert C. Vogel, "The Effect of Subsidized Credit on the Distribution of Income in Costa Rica," paper presented at the Rocky Mountain Council for Latin American Studies, Tucson, Arizona, April 1977.

facilitate a larger volume of credit for the rural sector in developing countries and thereby do more to promote agricultural output and redistribute income toward the rural poor.

Because the current approach emphasizes the provision of credit to the rural sector at subsidized low rates of interest, it must necessarily rely on some external donor or some internal source of tax revenues to obtain resources for the subsidy. In fact, the failure of industrialized countries to provide more subsidized resources, either directly or through international lending agencies such as the World Bank or the Inter-American Development Bank, has been widely deplored in recent years. In spite of urging the industrialized countries to do more, the governments of most developing countries have themselves been unwilling to expand greatly the portion of tax revenues going to support subsidized credit for the rural sector. It is not the purpose of this paper to argue that the industrialized countries should be implored to give more, or the developing countries to allocate more of their scarce tax revenues to subsidizing credit for the rural sector, neither of which is likely to happen in any case. Rather, the present paper argues that substantial resources exist in the rural sectors of most developing countries which are largely unutilized and that these resources are unutilized in part because of the current approach which emphasizes the continuing dependence of the rural financial system on foreign grants or taxation of other sectors of the domestic economy.

The perceived necessity of relying on foreign grants or domestic taxation comes from the widely-held view that savings cannot be mobilized in rural areas of developing countries because most of the rural population has no margin for saving over consumption needs. In addition, urban-based financial institutions are said to be uninterested in the small sums that might be mobilized in rural areas, while rural institutions are thought to lack the administrative and technical skills necessary for the successful mobilization of savings. Based on the experience of credit unions in Peru and Costa Rica, and especially on the experience of the Banco Nacional para las Cooperativas of Peru (BANCOOP), the present paper argues that these views are not correct and that large amounts of voluntary savings can be mobilized in rural areas of developing countries if the proper incentives are present.^{3/}

The current approach of relying on foreign grants and domestic tax revenues to provide subsidized low interest rate credit to the rural sector creates strong incentives against mobilizing domestic savings. Financial institutions are certain to prefer obtaining low-cost resources from foreign donors or from agencies of their own government to the alternative of obtaining resources from domestic savers who must be paid

^{3/} See Dale W Adams, "Mobilizing Household Savings Through Rural Financial Markets," Economic Development and Cultural Change, April 1978, and F.J.A. Bouman, "Indigenous Savings and Credit Societies in the Third World: A Message," Saving and Development, 1977, #4, for additional evidence.

interest rates high enough to compensate them for the use of these resources. If, in addition, financial institutions are required to make loans at subsidized low interest rates to support certain agricultural activities, they will be faced with two unattractive alternatives: (1) make loans at the same low interest rates with resources mobilized from domestic savers and thereby incur losses on these loans; or (2) charge higher interest rates on loans which are based on higher-cost resources and then attempt to explain to the borrowers paying the higher rates why they were discriminated against. Given such incentives, it is not difficult to understand why financial institutions in developing countries have not focused on mobilizing domestic savings.^{4/}

A project sponsored by the Agency for International Development (AID), which was initiated in Peru in 1979, is the basis for much of the evidence presented below in support of the possibility of successful savings mobilization in rural areas of developing countries. This AID project has several segments, but here only the aspects relating to savings mobilization will be discussed in any detail. The project includes technical assistance to help BANCOOP with its savings mobilization efforts

^{4/} See Thomas E. Weisskopf, "The Impact of Foreign Capital Inflow on Domestic Saving in Underdeveloped Countries," Journal of International Economics, February 1972, for traditional arguments and evidence based on 44 developing countries for the negative impact of foreign capital on domestic saving.

in two target areas in rural Peru and, in addition, technical assistance through BANCOOP to help the credit unions in these two target areas with their savings mobilization activities. Savings mobilization by the credit unions will be discussed first because in this way the environment in which Bancoop initiated its savings mobilization activities can better be understood. After the discussion of Bancoop's substantial success with savings mobilization in rural Peru, savings mobilization by credit unions in Costa Rica will be examined briefly to show that the Peruvian experience is not, and need not be, unique.

Peruvian Credit Unions

After years of strong growth, Peruvian credit unions began to experience serious difficulties in the mid-1970s, due largely to a dramatic upsurge of inflation and the failure of the credit unions to adjust their traditional low interest rate policies in the face of this inflation. From the early 1950s through 1973 the rate of inflation in Peru averaged less than 10 percent per year, but accelerated to over 30 percent per year in 1976 and 1977 and over 50 percent per year in 1978 and 1979. Until mid-1976, interest rates were rigidly controlled by the Peruvian Central Bank at 5 percent on savings deposits, 7 percent on time deposits, and 12 percent on short-term loans. These interest rate ceilings were raised beginning in mid-1976 and significantly in mid-1978. During 1979 and 1980, the ceiling rate on savings deposits was 30.5 percent, while time deposits

earned up to 35.5 percent on deposits of one year duration. The nominal ceiling rate for loans was 32.5 percent during 1979 and 1980, but effective interest rates could easily be 60 percent or higher through the use of commissions, compensating balances and other devices.

When the AID-BANCOOP project was initiated in 1979, none of the five major credit unions in the two target areas had taken advantage of the opportunity to raise interest rates. Rather, these credit unions continued to follow the tradition of charging 1 percent per month on loans. With such low interest rates on loans, the credit unions were unable to pay high enough interest rates on savings and time deposits to compete with other financial institutions, especially the commercial banks, which had quickly taken advantage of the increases in interest rate ceilings. Thus, the credit unions were forced to rely for their resources almost entirely on the capital contributions of their members, on which dividends are limited to 6 percent per year by the regulations of the Peruvian Central Bank.

These interest rate policies have created serious perverse incentives and substantial problems for the credit unions. On one hand, members have an incentive to borrow as much as possible because interest rates on loans far below the rate of inflation mean that borrowers have to pay back in real terms much less than the amount borrowed. On the other hand, members have little or no incentive to make time and savings deposits

with their credit unions because the purchasing power of these deposits is rapidly eroded by inflation when adequate interest rates are not paid. Members who make capital contributions to their credit unions do so primarily for the purpose of getting access to loans, and such loans can be as much as three times the amount of a member's capital contribution under the regulations of most Peruvian credit unions.

The results of these interest rate policies can readily be seen in the substantial problems experienced by the five major credit unions in the two target areas of the AID-BANCOOP project. There have been increasing complaints of severe shortages of loanable funds, as the demand for low interest rate loans far exceeds members' capital contributions and meagre time and savings deposits. Disgruntled members who are told that their approved loans cannot be disbursed because of a lack of funds, or that there is no point in even applying for a loan, often cease making capital contributions to their credit unions and become inactive. For some credit unions the loss of active members has spread to serious repayments problems as members see no point in repaying old loans when the prospects of obtaining new loans are bleak.^{5/} In addition, many credit unions are experiencing substantial operating deficits as stagnant

^{5/} See Robert C. Vogel, "Rural Financial Market Performance: Implications of Low Delinquency Rates," American Journal of Agricultural Economics, forthcoming, for a discussion of the importance of good service on new loans in maintaining good repayment rates on outstanding loans.

interest income fails to keep pace with the operating costs which increase with inflation. Even those credit unions which have managed to continue to grow in nominal terms have seen the purchasing power of their capital more than halved since the mid-1970s.

In spite of the important role in the AID-BANCOOP project of technical assistance through BANCOOP to help the credit unions with savings mobilization, the credit unions in the two target areas have been slow to accept the higher interest rate policies which are a prerequisite to successful savings mobilization. As of the end of 1979, only two of the five credit unions had raised their interest rates. One of these changed its interest rate policies only after it had reached the verge of collapse and had received an inordinate proportion of the project's technical assistance in the form of detailed analysis and persistent explanation of the consequences of its low interest rate policies. The other, however, had quickly raised its interest rates to the maximum permitted by the Central Bank's regulations and has subsequently had significant success in mobilizing additional time and savings deposits.

As of mid-1980, two of the other credit unions in the target areas had also raised their interest rates. One of these became convinced of the need to raise interest rates on loans in early 1980 because of operating losses, but the need to raise interest rates on time and savings deposits sufficiently to compete with other financial institutions in mobilizing

savings was not recognized. The other credit union raised interest rates to the maximum permitted on time and savings deposits, but gave so little publicity to these changes that several employees of the credit union were unaware of the new interest rates. As of mid-1980, one credit union still had made no change in its interest rates, although increases have been proposed by members of the credit union's board and discussed at the annual meeting. Because of the slowness to change interest rates, in the case of only one credit union is it possible at this point to see significant success with savings mobilization.

Before proceeding to analyze BANCOOP's success with savings mobilization in the same two areas of rural Peru, it is interesting to speculate why the credit unions have been so reluctant to change their interest rate policies.^{6/} There are at least four hypotheses worth noting, which are not necessarily mutually exclusive. The first is that credit unions are simply confused by the rhetoric of cooperativism, and members genuinely believe that raising interest rates on loans would be usurious and that problems can best be dealt with by appeals to altruism against the economic rationality of individual members. The second is that members who are on the boards of directors or key policymaking committees have much better access to credit union loans than most other members and use the rhetoric of

^{6/} See Robert C. Vogel, "Barriers to Financial Reform," International Conference on Rural Finance, Calgary, Canada, August 1979, for a discussion of the difficulties of implementing interest rate reform in a somewhat different context.

cooperativism to keep interest rates low on loans for their personal benefit. The third is that most credit union decision makers, including even management itself, have little professional knowledge of economics or finance and thus view as very risky any departure from traditional policies. The fourth is that credit unions continually hope for some source of low cost resources (if not the capital contributions of their members then donations or subsidized credit from some external source) through which they can avoid raising interest rates to compete for savings. Some evidence for each of these four hypotheses can be found in the technical assistance work with the credit unions in the two target areas, but perhaps most noticeable was the extreme disappointment of the credit unions on finding that the technical assistance with savings mobilization did not include any low cost resources for lending to members.

BANCOOP

In spite of its name, BANCOOP is not in fact a bank under Peruvian law, but it does carry out most functions of a bank such as receiving deposits and making loans. BANCOOP is rather a second level cooperative, that is, a cooperative of cooperatives with its directors elected by the cooperatives which have become members by making capital contributions to BANCOOP. Nevertheless, BANCOOP deals not only with its member cooperatives, but also with non-member cooperatives, individual members of cooperatives, and the general public. BANCOOP was selected

by AID to be the primary institution in the project for two main reasons: (1) BANCOOP was already following a policy of relatively high interest rates on loans and deposits within the limits of Peruvian regulations, and (2) BANCOOP had been reasonably successful as an urban-based operation and was interested in expanding its operations to serve a rural clientele.

BANCOOP initiated its savings mobilization activities in the two target areas of rural Peru during 1979 in the face of adverse economic conditions. In addition to the rapid inflation mentioned above, the Peruvian economy had shown no real growth in several years. Moreover, BANCOOP faced potentially formidable competition from established financial institutions including several commercial banks. Yet, by mid-1980, in the two target areas BANCOOP had already mobilized in Peruvian soles time and savings deposits equal to approximately one million U.S. dollars, in contrast to a goal of only \$150,000 to be met by the end of the project in mid-1981. This success can be put more clearly in perspective when it is noted that commercial banks and other financial institutions in the two target areas have indicated in preliminary figures much lower rates of saving mobilization during 1979 and early 1980. Offices of BANCOOP outside the two target areas also reported much lower rates of savings mobilization through mid-1980.

The success of BANCOOP in mobilizing savings in the two target areas should not obscure the fact that some significant problems have been encountered. In the early stages of the

project, BANCOOP officials that it was preferable to concentrate on mobilizing resources through capital contributions of member cooperatives and demand deposits and to de-emphasize time and savings deposits because the latter two required appreciable interest payments in contrast to the former two. However, the hope of mobilizing low-cost resources through capital contributions and demand deposits proved to be illusory. As in the case of the credit unions, members made capital contributions in order to request loans, so BANCOOP found that capital contributions from member cooperatives increased the demand for loans more than they increased the supply of resources available for lending. The inflows and outflows of demand deposits proved to be quite large relative to balances, so that demand deposits have not provided a stable source of funds for lending, nor have they been particularly low cost because of the clerical expenses involved in maintaining these accounts. The subsequent shift toward emphasizing time and savings deposits has provided far more resources for lending in the two target areas, and the interest and other costs associated with these accounts have easily been covered by the interest earned on the loans made with these resources.

Another problem encountered during the first year of the project was the much slower rate of savings mobilization in one of the two target areas, in spite of the fact that the less successful BANCOOP office had opened several months earlier and serves a more heavily populated area. It was found that

attempts by the member of BANCOOP's board of directors from the less successful target area to intervene in the day-to-day operations of that office had led to a high rate of turnover in managers and other key personnel during much of 1979. This, in turn, had harmed employee morale and had reduced public confidence in the ability of the BANCOOP office in that target area to survive and prosper. However, the durability of the current manager of that BANCOOP office has led to improved employee morale and depositor confidence, so that the rate of savings mobilization during 1980 has been approximately the same in the two target areas. A final puzzle worth noting was the slowness of BANCOOP to extend the successful savings mobilization techniques developed in the two target areas to offices in other areas. Perhaps the explanation, as suggested in the case of the Peruvian credit unions, is the difficulty of convincing individuals to deviate from traditional approaches when they do not have enough professional knowledge to be confident in the success of a new approach. In any case, several BANCOOP offices along the northern coast of Peru successfully adopted new savings mobilization techniques beginning in mid-1980.

One of the principal reasons for BANCOOP's success in savings mobilization has been the payment of high rates of interest on time and savings deposits, the maximum permitted under Peruvian regulations. There are, however, other factors which may be equally important. The experience, discussed above, of the BANCOOP office with high turnover of key personnel indicates the

importance of depositor confidence and employee morale. Employee performance is an important factor in successful savings mobilization which is often overlooked. It is generally recognized that good service in the form of convenient location of offices and convenient hours of operation is important in attracting potential depositors, and in this respect BANCOOP compares quite favorably with other financial institutions in the two target areas, especially with the commercial banks. However, it is seldom recognized that rapid service with a minimum of paperwork and other formalities is at least as important, and in this respect the advantage of BANCOOP over the other financial institutions appears to be even greater. A principal reason for good employee performance, which results in good service for depositors, is incentives for BANCOOP employees which are tied to the amount of time and savings deposits mobilized. Otherwise, more clients and more deposits simply mean more work for employees.

Savings mobilization campaigns, which include substantial incentives for employee performance, are the other important element in BANCOOP's success in mobilizing savings in the two target areas and, more recently, along the northern coast of Peru. So far during 1980, BANCOOP has run three very effective savings campaigns. The first, which actually began in December of 1979 and ran through the middle of January, involved free instant photographs for those who deposited small amounts, a raffle of cameras, and free cameras for those who made large

time deposits. The second, which ran from early February until April, involved free school supplies for small deposits, a raffle of school supplies and bicycles, and free bicycles for large time deposits. The third savings mobilization campaign, which began in July and ran until September, featured raffles of color television sets and other electrical appliances and immediate prizes of these same articles for large time deposits. This campaign departed from the earlier campaigns in some important aspects. First, as noted above, it was adopted by BANCOOP offices outside the two target areas. Second, the emphasis shifted toward time deposits and toward prizes which would have major appeal to more affluent and more urban groups within the target areas. The earlier campaigns not only emphasized a much larger number of smaller prizes but also emphasized immediate prizes in order to spread confidence in the newly-opened BANCOOP offices among a potentially large rural clientele.^{7/}

The current phase of the AID-BANCOOP project involves a detailed analysis of BANCOOP's successful savings mobilization efforts. In particular, the thousands of savings accounts which have been opened at the BANCOOP offices in the two target areas are being studied with respect to the characteristics of the depositors and the behavior of the accounts over time. A fear

^{7/} See Augusto Chanamé, "Pautas a Considerar en la Planificación de una Campaña de Promoción," Seminario sobre El Proceso Inflacionario y su Incidencia en las Cooperativas de Ahorro y Crédito, San José, Costa Rica, September 1980, for a detailed discussion of the BANCOOP savings mobilization campaigns.

expressed early in the project was that savings would be deposited during campaigns in order to secure prizes and would then be quickly withdrawn. This fear has proven unfounded as savings accounts opened during campaigns and those opened at other times do not show significantly different behavior, and both groups of savings accounts have on the average maintained balances over time which tend toward the amount of the initial deposit. The main difference between campaign and non-campaign periods is that substantially more new accounts are opened during savings mobilization campaigns. However, the analysis has not yet progressed to the point where it is possible to evaluate the appropriateness of the recent emphasis on time deposits rather than savings accounts, nor has the importance of the different elements in each of the campaigns yet been analyzed.

Interviews are currently being carried out in one of the target areas with a random sample of 100 BANCOOP depositors and 100 other individuals who are not BANCOOP depositors, but who are similar to these depositors in other respects. The purpose of these interviews is not only to discover what aspects of BANCOOP's savings mobilization efforts are most appealing to potential depositors, but also to discover what are the principal sources of these deposits. Knowing the source of these deposits may be useful for BANCOOP's promotional activities, but for macroeconomic analysis it is particularly important whether they are coming from reduced consumption, reduced holdings of

unproductive physical assets, or reduced holdings of other financial assets. In addition, the relationship between time and savings deposits and other BANCOOP services is being studied, that is, whether individuals tend to make time and savings deposits first and then are drawn to other BANCOOP services, such as loans and checking accounts, or vice versa. The daily inflows and outflows from BANCOOP's checking and savings accounts are also being analyzed in order to make recommendations about the appropriate level of reserves for these accounts.

Before turning to the discussion of savings mobilization by credit unions in Costa Rica, it is worthwhile to mention briefly the impact of BANCOOP's savings mobilization efforts on its financial viability and on its lending behavior. Under the impact of inflation BANCOOP had drastically shortened the maturity of its loans and consequently had shifted its loan portfolio away from cooperatives, both member and non-member, and towards individuals. Higher interest rates and the greater availability of resources due to successful savings mobilization have permitted some lengthening of maturities and some shift of the loan portfolio back toward cooperatives. Throughout the period there has been no lack of demand for BANCOOP loans, even at effective interest rates of more than 60 percent per year, and many borrowers have stated that rapid service is more important than low interest rates. BANCOOP's financial viability also appears to have improved during the period of successful savings mobilization efforts. Inadequate accounting procedures,

especially with respect to delinquent loans, make BANCOOP's stated profits somewhat dubious, but in any case both the delinquency situation and profits appear to have improved during the past year.^{8/}

Costa Rican Credit Unions

A study of savings mobilization by Costa Rican credit unions which served as the main background paper for a recent seminar in Costa Rica shows that the Peruvian experience with savings mobilization is not different from what can be observed in other countries of Latin America.^{9/} In late 1978, Costa Rica underwent a major financial reform in which many interest rates were totally freed from control by the Central Bank while others were increased and allowed to float with international interest rates. In addition, increasing rates of inflation during the past two years have tended to push interest rates higher since the beginning of the reform. Many credit unions in Costa Rica, as in Peru, have failed to raise interest rates and have thus been unable to mobilize additional resources through time and savings deposits. These credit unions have also experienced a loss of active members and an increase in

^{8/} See George Wohanka, "The Impact of Successful Savings Mobilization on BANCOOP's Financial Viability and Lending Behavior," paper presented to AID, Department of State, Washington, D.C., December 1980.

^{9/} See John F. Gadway and Robert C. Vogel, "La Inflacion y la Tasa de Interes," Seminario sobre El Proceso Inflacionario y su Incidencia en las Cooperativas de Ahorro y Credito, San Jose, Costa Rica, September 1980.

delinquent loans as members discover that these credit unions cannot mobilize adequate resources to provide new loans. However, in Costa Rica several credit unions have been willing to raise interest rates on loans and deposits as high as necessary to compete vigorously with other financial institutions including commercial banks. These credit unions have continued to grow, not just in nominal terms, but in the real volume of deposits and loans and in the number of new active members.

In the discussion at the Costa Rican seminar, many credit unions lamented the lack of an altruistic cooperative spirit among their members, but almost all recognized that individual economic rationality requires realistically high interest rates for credit unions to be able to mobilize the resources necessary to provide good service to their members and, hence, to survive. There was, just as within BANCOOP in Peru, disagreement as to whether it was better to emphasize savings deposits or time deposits in savings mobilization strategies, and the preferred strategy often seemed to depend on the characteristics of the members of the particular credit union. The idea of savings mobilization campaigns did not meet with universal acclaim from Costa Rican credit unions, in part because of apparent confusion among the necessity of lecturing members on the importance of an altruistic cooperative spirit, improving public relations in general, and designing and implementing a savings campaign with specific objectives. There was also

considerable debate about the possibility or desirability of careful supervision of the use by members of credit union loans as a complement to savings mobilization.

Conclusion

It is possible to mobilize substantial amounts of savings in the rural areas of developing countries if the proper incentives are present. Proper incentives include not only adequately high interest rates for depositors, but also financial institutions in which depositors can have confidence and which provide good service for depositors, and this in turn requires adequate rewards to promote good performance by the employees of financial institutions. In addition, the success of BANCOOP's savings mobilization campaigns indicates that special promotional efforts for savings can also be very effective.

International lending institutions might consider adjusting their policies and attempting to inject resources into the rural financial markets of developing countries in a way that encourages proper incentives for savings mobilization. One possible approach would be grants or subsidies in the form of low interest rate loans to rural financial institutions to match in some proportion the savings newly mobilized by these institutions. Through the generation of additional savings such an approach would make credit more abundant for the ultimate recipients of loans in the target group. This could be far more effective in promoting agricultural output and

redistributing income toward the rural poor than the traditional policies of subsidized low interest rate loans for small farmers and other agricultural producers.

REFERENCES

- Adams, Dale W, "Mobilizing Household Savings Through Rural Financial Markets," Economic Development and Cultural Change (April 1978).
- Bouman, F.J.A., "Indigenous Savings and Credit Societies in the Third World: A Message," Saving and Development (1977, #4).
- Chanamé, Augusto, "Pautas a Considerar en la Planificación de una Compañía de Promoción," Seminario sobre El Proceso Inflacionario y su Incidencia an las Cooperativas de Ahorro y Credit, San Jose, Costa Rica (September 1980).
- Gadway, John F. and Robert C. Vogel, "La Inflacion y la Tasa de Interes," Seminario sobre El Proceso Inflacionario y su Incidencia en las Cooperativas de Ahorro y Credito, San Jose, Costa Rica (September 1980).
- Vogel, Robert C., "Barriers to Financial Reform," International Conference on Rural Finance, Calgary, Canada (August 1979).
- _____, "The Effect of Subsidized Credit on the Distribution of Income in Costa Rica," Rocky Mountain Council for Latin American Studies, Tucson, Arizona (April 1977).
- _____, "Rural Financial Market Performance: Implications of Low Delinquency Rates," American Journal of Agricultural Economics (forthcoming).
- Von Pischke, J.D. and Dale W Adams, "Fungibility and the Design and Evaluation of Agricultural Credit Projects," American Journal of Agricultural Economics (November 1980).

Weisskopf, Thomas E., "The Impact of Foreign Capital Inflow on Domestic Saving in Underdeveloped Countries," Journal of International Economics (February 1972).

Wohanka, George, "The Impact of Successful Savings Mobilization on BANCOOP's Financial Viability and Lending Behavior," AID, Department of State (December 1980).

6th Session: Rapporteur's Report and Discussion

The Potential for Rural Savings Mobilization:
Some Evidence from Latin America

Robert C. Vogel, the author of the paper, emphasized the need to complement other sources of funds with domestic savings to improve agricultural production and income distribution in rural areas. He also emphasized that this need can be fulfilled by providing appropriate savings incentives like attractive real interest rates and better services to the depositors. In addition, promoting confidence of the depositors and providing incentives to the bank staff are especially necessary for mobilizing rural savings. The experiences of pilot projects in Peru and Costa Rica provide support for these observations. He emphasized that these experiences are also relevant for other developing countries.

The discussant, John Yates thought that rural savings potential in the Caribbean may not be high. He also thought that there is a need to reform the banking laws in the region so that savings mobilization can be promoted more effectively. He expressed a concern that the costs of mobilizing rural savings could be high since the availability of trained staff and bank offices are very limited in the region. The strategy of mobilizing rural savings should also take into account the scope for matching term-structure of

funds mobilized with that of the loan portfolio. In Guyana deposits mobilized by the commercial banks may be shared with the DFCs to plough back funds in the rural areas. Finally he raised a question: Whether or not savings mobilized by the BANCOOP in Peru were utilized for improving agricultural production and rural income distribution.

Kenrick Hunte thought that providing a higher interest rate though necessary is not a sufficient condition to promoting rural savings. In this context, he referred to the poor response of savings to higher interest rates in Barbados. He also thought that there is a need to study savings elasticity of rural households in the Caribbean.

Compton Bourne thought that in light of the successful saving activities of the formal and informal associations in the Caribbean the Peruvian experiences are relevant. Furthermore, surveys have consistently shown that the rural poor are much more inclined to have savings accounts than they are lines of credit from formal credit programs. Hence any program designed to help attract more savings with higher interest rates will be helping the rural poor more than programs designed to promote cheap credit at the expense of savings through negative real rates of interest. He further thought that there is scope to rationalize the different instruments used for savings mobilization in the region.

Neville Grainger wanted to know whether smaller farmers in Peru had benefited from high rates of interest offered for savings. Darwin Clarke shared this concern since cooperative funds were often utilized for unproductive purposes.

Douglas Graham however thought that the smaller farmers could still benefit from earning higher interest rates on savings which were hitherto not available. This in and of itself represented a net improvement. B.M. Desai thought that rural savings capacity should be judged on the basis of expected rate of return and time profile of cash flows, besides income.

Richard Roberts expressed a concern about relying on rural savings to meet investment needs of the rural areas. He also shared the concerns expressed by John Yates.

C. De Grasse thought that rural savings can complement other resources without being subjected to more constraining terms of foreign capital. He also thought that rural savings can be mobilized by rationalizing existing financial institutional structure rather than by creating new institutions in the Caribbean.

Darwin Clarke, Headley Brown, and Dario Bencosme Baez agreed with the idea of mobilizing rural savings to complement other resources. In this context, Clarke referred to the projects sponsored by USAID and CIDA, and wondered whether DFCs can be successful in rural savings mobilization.

Headley Brown thought that the commercial banks could be required by law or other mechanisms to share their savings with the public sector credit agencies. This was necessary because mobilizing rural savings could be very costly. Baez thought that the new strategy of mobilizing rural savings has a potential to change the savings composition from unproductive to productive forms.

In his reply, Robert C. Vogel, stressed that the Peruvian and Costa Rican experiences were relevant for the Caribbean because of similar economic conditions. He also stressed the importance of a new strategy to derive better complementarity between savings and credit operations. He agreed that higher interest rate on savings is not a sufficient condition, but it certainly is a very important condition for promoting rural savings. He stressed the need for better services to the depositors and for better staff incentives. Funds mobilized by the BANCOOP in Peru were utilized for agricultural production and marketing co-ops and the smaller farmers had benefited from the new program. He also reported that the costs of special savings campaigns in Peru were fairly small considering the amount of savings mobilized. He once again stressed the importance of flexible interest rates to better the financial intermediation process.

APPENDIX

Roster of Participants and Institutions
at the Senior Management Workshop,
CACTCOM--Georgetown, Guyana,
November 17-20, 1980

CACTCOM
Senior Management Workshop
Participants

<u>Names</u>	<u>Institutions</u>
Augustin Alexander	St. Lucia Agricultural & Industrial Bank
Marciano E. Avila	Development Finance Corporation - Belize
Dario Bencosme Baez	Banco Agricola De La Republica Dominicana
Winston Bain	Grenada Development Bank
Rozendo Baizar	Belize Cane Farmers' Association
Ronald A. Baynes	Barclays Bank International Limited, Barbados
Winston Rudolph Beckles	Barbados National Bank (Head Office)
J.H. Berg	European Economic Community
Compton Bourne	University of the West Indies, Kingston, Jamaica
Ann Bramble	Caribbean Food Corporation - Trinidad
Alaasis Braynen	Ministry of Agriculture & Fisheries Nassau, Bahamas
Eustace A. Brooks	Development Board - Turks & Caicos Islands
Headley C. Browne	Jamaica Development Bank
D. R. Budhram	University of Guyana (Economics Dept.)
Ivan L. Carter	Gaibank - Guyana Agricultural & Industrial Development Bank
Ian D. Chandler	Barbados National Bank (Agricultural Division)
Bigyan Chandra	Guyana Sugar Corporation Ltd. (Guysuco)
Darwin E. Clarke	United States Agency for International Development (Regional Development Office)- Barbados
Rodini Conte	Bureau De Credit Agricole - Haiti
Horatio Cooke	Barbados National Bank (Agricultural Division)
Audley C. Coulton	Agricultural Credit Board - Jamaica
B.M. Desai	Ohio State University/Indian Institution of Management

<u>Names</u>	<u>Institutions</u>
Aubrey Mendes De Franca	Royal Bank of Canada - Georgetown, Guyana
C. De Grasse	Development & Finance Corporation - St. Kitts
Clarence L. Dunn	Cardats, St. Georges, Grenada
Joy Fevrier	St. Lucia Agricultural & Industrial Bank
Robert E. Firestine	U.S.A.I.D. - Washington
Cary Fraser	C.A.D.E.C. (Christian Action for Development in the Caribbean) Guyana
Douglas H. Graham	Ohio State University - U.S.A.
Neville Grainger	Caribbean Development Bank, Barbados
Errol Handman	Guyana Sugar Corporation Ltd. (Guysuco)
Oswald L. Henry	Guyana Sugar Corporation Ltd. (Guysuco)
Kenrick Hunte	Gaibank - Guyana Agricultural & Industrial Development Bank
Joshua Jackson	Agricultural & Co-operative Bank - St. Vincent
Sharon James	Antigua and Barbuda Development Bank
Mohamed Karim	Gaibank - Guyana Agricultural & Industrial Development Bank
Edmond King	Barbados National Bank (Legal Department)
Walter Lachman	Gaibank - Guyana Agricultural & Industrial Development Bank
Luis Lara	Inter-American Development Bank
Donald W. Larson	Ohio State University - U.S.A.
John M. Mayers	University of the West Indies - Barbados
Cecil McFarland	United States Agency for International Development (USAID) Guyana

<u>Names</u>	<u>Institutions</u>
Ghiasudeen Mohammed	Cardi - Tinidad
Mohammed Nasseer	Ministry of Agriculture
Victor Nemdhari	Gaibank - Guyana Agricultural & Industrial Development Bank
Victor Ojeda	Inter-American Institute of Agricultural Sciences - Barbados
Everett A. O'Neal	Development Bank of the British Virgin Islands
Philomena Persaud	Ministry of Agriculture - Guyana (Planning Dept.)
Peter Ramsammy	Ministry of Agriculture (Ext. & Educ. Div.) Guyana
Daniel A. Roberts	Grenada Development Bank
R.A.J. Roberts	Food & Agricultural Organisation of the U.N. Rome
Carlos G. Santos	Development Finance Corporation - Belize
Dr. Compton Saul	State Planning Secretariat - Guyana
Desmond Segre'	Agricultural Credit Board - Jamaica
Keith Van Sertima	Gaibank - Guyana Agricultural & Industrial Development Bank
Oliver Stacy Solomon	Agriculture & Industrial Development Board Cayman Islands
Winton Thomas	Gaibank - Guyana Agricultural & Industrial Development Bank
Sydney Thompson	Gaibank - Guyana Agricultural & Industrial Development Bank
James Trehy	Gaibank - Guyana Agricultural & Industrial Development Bank
Robert C. Vogel	Syracuse University & Ohio State University
Dr. Ian Whittaker	Jamaica Development Bank
John C. Yates	Gaibank - Guyana Agricultural & Industrial Development Bank