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AGRICULTURAL CREDIT AND RURAL PROGRESS IN JAMAICA: A DEVELOPMENT DILEMMA

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Agricultural Credit and Rural Progress in Jamaica: A Development Dilemma

by

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I. Introduction

The agricultural credit system in Jamaica has experienced substantial growth, institutional changes and financial difficulties in the past decade. In many ways the experience of the system as a whole on the one hand, and the diverse institutional strategies to deal with the problems of credit supply on the other, illustrate the classic dilemmas of agricultural finance in LDC's. This history also takes on special poignancy in the light of the island's economic difficulties in the post 1974-recession-energy deficit world and the hopes, inspired in the early 1970s, that a new democratic political order with a socialist program would guide Jamaica's future. In short a political mandate for increased public sector activity and redistributive policies coincided with a shift in world economic conditions that severely compromised the island's growth potential. This scenario should be kept in mind as the context within which changes in rural credit institutions and strategies occurred.

The first part of this paper establishes the macro-economic context of growth and stagnation for recent years in Jamaica. This is followed by a brief discussion of how this economic decline has affected the financial sector. In the third section we explicitly examine the growth, institutional features and aggregate performance of the national system of agricultural credit as a whole. The fourth section evaluates the performance and institutional viability of specific credit institutions and programs during this period and the factors contributing to the financial difficulties of these institutions and programs. Finally, we conclude with a review of the major issues highlighted by and the lessons learned through Jamaica's experience with agricultural credit supply strategies.

II. THE JAMAICAN ECONOMY IN THE 1970s--GROWTH & STAGNATION

Table I sets forth the growth of output, investment and savings within the Jamaican economy in the last decade. The late sixties and early seventies registered respectable rates of growths for the economy as a whole, although this was not true of the agricultural sector. The mid-seventies, however, saw a sharp decline to stagnant or negative rates of growth overall and for many major sectors in the economy. This decline in the rate of growth is understandably matched by sharp declines in savings and investment. The net result of this process was a negative aggregate and per capita growth of GDP between the early 1970s and the present.

Although not a subject of this paper it is pertinent to point out here that under most circumstances this remarkable decline in

TABLE 1

RATES OF GROWTH OF OUTPUT SAVINGS AND INVESTMENT IN THE JAMAICAN ECONOMY IN RECENT YEARS

	Average Annual Rates of Growth				
	1965-7 to 1970-2	1970-2 to 1975-7	1975	1976	1977
	(1)	(2)	(3)	(4)	(5)
1. Gross Domestic Product	5.7	-1.8	-2.2	-6.2	-2.5
(a) Agriculture	-4.3	4.2	6.4	2.8	1.2
(b) Mining	1.7	-2.2	-23.5	-21.5	16.7
(c) Manufactures	1.0	3.7	-3.1	8.8	-11.9
(d) Construction	5.1	-5.0	0.8	-25.1	-26.6
(e) Distribution	5.9	0.9	0.7	-18.8	-3.0
(f) Government	4.0	13.8	7.5	11.1	-1.1
2. Gross Domestic Product Per Capita	4.2	-3.3	-0.3	-7.6	-3.9
3. Net Fixed Capital Investment	10.7	-14.7	17.7	-52.1	-67.4
4. Domestic Savings	-3.3	-62.9	-22.9	-40.5	-38.2

Sources: Derived from data in National Income and Product Accounts, various years economic activity would invariably lead to governmental instability, coups and regime changes, usually in a repressive and authoritarian direction (i. e., the Latin American pattern). Jamaica, for the most part, has avoided this scenario through the surprising strength of her young parliamentary tradition and through the maintenance of regime legitimacy with redistributive policies during this period of economic stagnation. Still the net result is one of growing political instability and hostility between the two major political parties and economic austerity imposed through a recent IMF loan and stabilization agreement.

Table 2 illustrates the change in such vital areas as the balance of payments, inflation and key financial market indicators during this period. The growing deficit in the balance of payments has been a crucial negative influence on the economy that has finally forced the Manley Administration to adopt an IMF stabili zation package from late 1977 onwards. Column three shows that the net reserve position had placed Jamaica on the verge of international bankruptcy in 1976-77. A sharp decline in export earnings (bananas, sugar, tourist revenues and bauxite) combined with a failure to reduce imports sufficiently led to this state of affairs. Domestic inflation (Column 4) has also risen during this period, in large part growing out of the growing deficit in the government accounts as public sector activity increased

TABLE 2

SELECTED MACRO ECONOMIC FINANCIAL INDICATORS
OF THE JAMAICAN ECONOMY
FOR THE 1970s

	Current Account Balance of Payments Deficit: J $ Millions	Current Account Balance of Payments Deficit: As Percentage of Export Earnings	Net Foreign Reserves J $ Millions	Change in Consumer Price Index (%)	Government Deficit as Percentage of GNP
	(1)	(2)	(3)	(4)	(5)
1970	-$127.2	36.5	$95.9	8.6	-3.7
1971	- 140.4	38.4	132.2	6.7	-4.9
1972	- 157.6	25.5	88.7	5.8	-4.9
1973	-225.0	36.7	76.1	17.6	-5.8
1974	-151.8	21.1	130.2	27.3	-8.2
1975	-257.0	31.9	56.7	17.4	-8.8
1976	-275.2	42.8	-181.4	9.7	-17.3
1977	na	na	-196.0	11.2	na

	Commercial Bank Credit to Government as % of Commercial Bank Assets	Excess Liquidity in Commercial Banks as % of Total Bank Assets	Real Savings(2) (Savings + Time Deposits) J $ Millions	Real Rates of Interest(3): for Government Bills	Real Rates of Interest(3): for Savings Deposits
	(6)	(7)	(8)	(9)	(10)
1970	10.9	2.6	223.0	-4.6	-5.1
1971	11.2	4.5	256.1	-2.9	-3.3
1972	11.0	1.9	297.9	-0.8	-2.5
1973	11.4	2.3	279.8	-11.8	-13.4
1974	10.5	1.4	245.5	-20.1	-23.1
1975	10.2	1.9	257.2	-10.5	-11.4
1976	11.7	2.0	261.9	-2.5	-2.7
1977	33.2	8.9	244.5	-3.4	-4.2

Sources: Derived from data in Bank of Jamaica <u>Statistical Digest</u>, <u>Statistical Abstract</u> and <u>Bulletin</u>, various years.

Notes:
(1) Averages are period averages.
(2) Deflator used is implicit GDP deflator (1970=100)
(3) Real Interest rate is measured as the nominal interest rate minus the rate of change of the consumer price index for the corresponding year.

markedly. In 1978 inflation had grown to an annual rate of 35 percent due to the impact of massive devaluations on the domestic price level.

Finally, Columns 6 through 10 portray the impact of this "stagflation" on the financial sector and structure of interest rates. Government notes have increased substantially as a proportion of Commercial bank assets, in part, because the decline in aggregate demand has affected the demand for bank loans. With the rise in excess liquidity (Column 7) banks buy interest earning government notes as a last resort to earn at least some nominal rate of return on their "excess" reserves that cant' be loaned out. The depressed state of the economy has also caused a decline in real savings (Column 8), while inflation has contributed to a negative real rate of interest environment (Columns 9 and 10). Savers are subsidizing borrowers in this setting in that they are receiving a negative rate of return in real terms on their savings deposits in commercial banks. This hidden tax on savings has grown even larger in 1978 with the rapid rise in inflation.

In summary the Jamaican economy has experienced a long period of economic decline and stagnation since 1971-72. Exports have declined, balance of payments deficits grown, inflation risen to unaccustomed levels contributing to a negative real rate of interest scenario in which savings are penalized and borrowing subsidized.

Within this setting the agricultural sector has been the one principle area experiencing some degree of positive growth and the role of agricultural credit in this sector has been substantial in magnitude but controversial in result.

III. THE NATIONAL NETWORK OF AGRICULTURAL CREDIT--GROWTH, INSTITUTIONAL CHANGE AND PERFORMANCE

A. Growth

There have been five major formal sources of agricultural credit in Jamaica throughout the 1970s: (1) the commercial banks; (2) the Agricultural Credit Board (ACB); (3) the Jamaica Development Bank (JDB): (4) the Self-Supporting Farmers Development Program (SSFDP); and (5) the Crop Lien Program.

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 foreign hands. There are eight commercial banks on the island, two of which have been nationalized. The remaining six banks are either wholly or partly owned foreign banks such as the Bank of Nova Scotia, Royal Bank of Canada, Jamaica Citizens Bank (associated with a Georgian Bank in Atlanta), Bank of Montreal and others. Within this market structure which is essentially oligopolistic, two banks alone comprise close to half of the total loans made in the system: the Bank of Nova Scotia and the National Commercial Bank (NCB), a nationalized bank that formerly belonged to Barclay's of Great Britian.

In addition to commercial banks, the remainder of the agricultural credit sources are public sector institutions or programs. The oldest of these public institutions is the Agricultural Credit Board (ACB) created in 1960. This institution has two portfolios: one serving larger farmers through direct loans; the other aimed for small farmers and channeled through the national network of small people's cooperative banks (P. C. Banks) scattered throughout the island. The loan purpose in both cases is largely short term and seasonal and, in the case of the P. C. Banks including small loans as well.

The Jamaica Development Bank (JDB) began making large medium to long term "development" loans to essentially medium to large farmers from the early 1970s onwards. The Small Farmer Development Program (SSFDP) was also launched at the same time as the JDB. It's focus is also on medium to long term loans but to much smaller farmers than those serviced by the JDB. Limitations on farm acreage, gross sales and assets have created a clientele for the SSFDP that can best be characterized as medium sized farmer. Finally we have the recently created Crop Lien Program launched by the government in 1977 and administered by the Ministry of Agriculture through their extension agents working with the cooperation of the PC Banks as retail outlets for these loans. Here the 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 3 summarizes the growth of formal agricultural credit through these five major sources. Panel A shows that although loans outstanding in nominal terms grew almost seven fold in seven years, this increase was only 2. 6 times in real terms, reflecting the inflationary erosion of the capital base for agricultural lending. Panel B shows that of the net increase in real loans for agriculture, commercial banks accounted for the largest contributions followed by the JDB large farmer development loan facility and the SSFDP program. The older line ACB loan source actually experienced a net decline in loan activity (in real terms) with all of this net decline associated with the small farmer PC Bank line of credit within the ACB portfolio. [1]

[1]The large rise in loans outstanding between 1974 and 1975 (Panel A, Table 3) and the relatively large role of commercial banks in the net increase in real credit from 1970 to 1977 (Panel B, Table 3) is partially due to a change in the Bank of Jamaica's classification of agricultural loans reported by commercial banks in 1975. 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 and 1975 was due to this change in classification (Graham, Bourne and Begashaw, 1978, Ch. IV).

Table 3

Total Loans Outstanding To Agriculture In Jamaica In Current and 1970 Dollars and By Institutional Source 1970-1977

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

Year	Current Values (J $000) (1)	In 1970 Dollars (J $000) (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	136,721	61,091
1977	166,451	65,455

B. Growth In Total Agricultural Loans Outstanding From 1970 To 1977 In 1970 Dollars By Institutional Source

Su 1970 Dollars (J $000)

Source	1970 (1)	1977 (2)	Net Change
1. Commercial Banks	$10,093	$35,606	$+25,513
2. Agricultural Credit Board			
(a) Total	13,038	8,144	-4,894
(b) Direct Borrowers	(1,008)	(1,090)	(+901)
(c) Peoples Coop. Banks	(12,030)	(6,235)	(-5,795)
3. Jamaica Development Bank (JDB)	55	9,637	+9,582
4. Self Supporting Farmers Development Program (SSFDP)	2,133	8,337	6,204
5. Crop Lien Program	--	3,731	3,731
TOTAL	$25,320	$65,455	$40,136

Sources: *Statistical Digest* (Bank of Jamaica), various years; *Monetary Statistics* (Department of Statistics), various years; *Annual Reports* of the JDB, SSFDP and Ministry of Agriculture.

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

B. Institutional Change

Table 4 offers us 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.[2] Commercial banks and the large farmer JDB development loan portfolio have increased their relative portfolio substantially while, at the other end of the spectrum, the small farmer oriented ACB-PC Bank program lost ground markedly. Only in 1977 was there an improvement in the credit status of small farmers with the launching of the Crop Lien Program. Panel B shows that this program alone accounted for almost one-third of the incremental increase in net loans outstanding from January 1 through December 31, 1977. It was the largest source of credit increase during that year, even 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 ACB had accumulated sufficient

[2]Again allowance must be made here for the large relative increase in commercial bank loans from 1974 to 1976 (Panel A, Table 4) in part due to the reclassification of agricultural loans in 1975 discussed in the previous footnote. Nevertheless there was a large unambiguous rise from 1971 to 1974.

TABLE 4

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 Sources for Selected Years in Jamaica

Farm Size and Sources	1971 (1) %	1974 (2) %	1976 (3) %	1977 (4) %
I. Large Farmers and Cooperatives	45.8	60.8	77.4	72.0
(a) Commercial Banks	39.1	44.2	60.2	54.4
(b) ACB-Direct Loans to Farmers	4.7	4.2	3.0	2.9
(c) Jamaica Dev. Bank (JDB)	2.0	12.4	14.2	14.7
II. Medium-Sized Farmers	13.2	16.2	11.5	12.7
(a) Self-Supporting Farmer Development Program (SSFDP)	13.2	16.2	11.5	12.7
III. Small Farmers	40.9	22.9	11.0	15.2
(a) ACB--Peoples Coop. Banks Loans	40.9	22.9	11.0	9.5
(b) Crop Lien Program (Min. Agric.)	--	--	--	5.7
Total (%)	100.0	100.0	100.0	100.0
Total (J$)	(30,556,000)	(60,060,000)	(136,721,000)	(166,451,000)

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

	1971 (1) %	1974 (2) %	1976 (3) %	1977 (4) %
I. Large Farmers and Cooperatives	54.9	76.0	80.2	46.9
(a) Commercial Banks	36.0	37.2	47.2	27.4
(b) ACB-Direct Loans to Farmers	8.3	2.5	2.3	2.4
(c) Jamaica Dev. Bank (JDB)	10.6	36.3	30.7	17.1
II. Medium-Sized Farmers	36.7	17.2	16.8	18.2
(a) Self-Supporting Farmer Development Program	36.7	17.2	16.8	18.2
III. Small Farmers	9.2	6.9	3.0	34.8
(a) ACB-Peoples Coop. Bank Loans	9.2	6.9	3.0	2.9
(b) Crop Lien Program (Min. Agric.)	--	--	--	31.9
Total (%)	100.0	100.0	100.0	100.0
Total (J$)	(5,177,000)	(11,054,000)	(23,978,000)	(29,730,000)

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 as we shall see shortly.

In addition to the large vs small farmer profile set forth in Table 4, there is an interesting foreign vs domestic resource division that merits discussion. A large majority of the resources loaned out in the JDB and SSFDP programs 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 season loans (through commercial banks, the ACB and Crop Lien program) while foreign resources are designed to service medium to long term developmental loans (the JDB and SSFDP).

Prior to the 1970s there were only two sources of agricultural credit in Jamica. Both were exclusively domestic sources (the commercial banks and the ACB lines of credit) and both were largely short term in focus with the commercial banks servicing large farmers and the ACB small farmers. By the mid-1970s this scenario had changed to include the new, internationally financed developmental institutions (the JDB and SSFDP). These institutions were the most rapidly growing sources of funding for agricultural credit in the country. Whereas in 1969 they played no role whatsoever, by 1971 Panel B of Table 4 shows they accounted for roughly 48 percent of net increase in loans outstanding for that year. This rose to 53 percent in 1974, declined slightly to 47 percent in 1976 and further to 35 percent in 1977 when the domestically financed short term Crop Lien Program was launched. By any measure 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.

A problem for the future is the prospective decline of these foreign source funds within the rural financial markets of Jamaica. The growing problems of delinquincy, on the one hand, and declining foreign exchange earnings on the other hand, 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 with the international agencies. This will be discussed further in a later section.

C. Performance

Prior to evaluating the performance of each institution within the credit network, it is useful to gain an insight into the performance of the system as a whole through the various credit ratios in Table 5. Column 2 of Table 5 underlines the fact that total credit has been rising substantially as a percent of GDP since the early 1970s. This reflects the growing rate of inflationary financing in the economy through substantial increases in the money supply to service the rapid

Table 5

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

A. Credit Ratios

Year	Agricultural Credit/ Total Credit (1)	Total Credit/ Total GDP (2)	Agricultural Credit/ Agricultural GDP (3)
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

B. Incremental Changes In Agricultural Credit And Agricultural GDP In Recent Years

Year	Annual Increase In Agric. Credit (J $000) (1)	Annual Increase In Agric. GDP (J $000) (2)	Column 1/ Column 2 (3)
1975-76	23,978	25,268	95%
1976-77	29,730	37,626	79%

C. Estimates of Real Rate of Interest For Agricultural Credit and Implicit Credit Subsidy As Percent of Agricultural GDP

Year	Rate of Inflation (1)	Avg. Nominal Interest Rate Agric. Loans (2)	Real Rate of Interest (Col 2-Col 1) (3)	Agr. Credit/ Agr. GDP (4)	Credit Subsidy As % Of Agric. GDP (1) (5)
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	35.0 (3)	10.0	-25.0	62.6 (2)	15.6

Sources: Statistical Digest (Bank of Jamaica), various years; National Income and Product 1977 (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 products (column 4) and multiplying this by the negative rate of interest (column 3). This is equivalent to estimating the amount of subsidy by taking the negative rate of interest and multiplying it by the amount of agricultural credit outstanding and then discovering what proportion this is to agricultural GDP.

(2) Assuming the proportion of agricultural credit to agricultural GDP remains the same in 1978 as in 1977.

(3) Estimate.

increase in the demand for credit beyond that which can be justified with price stability (Table 2, Col. 4). Agricultural credit per-se slightly declined as a proportion of total credit (panel A, Col 1). From 1975 onwards however, it has been growing more rapidly than the rapid increase in total credit. The sharp jump in all these credit ratios between 1974 and 1975 primarily reflects a "broader" definition of agricultural credit in the commercial banks loan reporting procedures to the Bank of Jamaica from 1975 onwards (see footnotes 1 and 2). Hence the only unambiguous trends are those from 1970 to 1974 and from 1975 to 1977 (i.e., the two subperiods that straddle the 1974-75 period). Finally the agricultural credit/agric. GDP ratio (Col. 3) has been increasing from 32 to roughly 37 percent in the earlier subperiod and from 56 to 63 percent in the later subperiod.

The rising average ratio of agricultural credit to Agric. GDP implies an even higher marginal ratio of the incremental increase in agricultural credit (during a given year) to the incremental increase in agricultural GDP. Panel B of Table 5 highlights this fact for the most recent two years in our time series where marginal increases in agricultural credit range from 79 to 95 percent the marginal or incremental increase in agricultural GDP. Now these rough ratios are less than ideal in measuring the changing efficiency or productivity of credit. First if some natural disaster hits the agricultural sector this will limit the growth of agricultural GDP and one would hardly begrudge the continued use of credit to tide farmers over until the next season. Also, if longer term credit forms an important part of the total credit portfolio, we should spread that credit amount through the average weighted lifetime of the agricultural investments financed by these credits rather than bunching the whole amount into the numerator during the year all the credit was issued (as was done here).

In the Jamaican case there have been droughts in some years which could have affected agricultural GDP to some extent. However, in 1977 the sector grew at a robust 6.2 percent in real terms with most of this growth in the domestic food crop area. Likewise, long term credit, as discussed earlier has formed an important part of the total credit portfolio in Jamaica. However, this component has been declining in recent years (from 53 percent of the net increase in credit in 1974 to 35 percent in 1977) as the credit/GDP ratio has been rising. In 1977 we have the setting of a major increase in short term credit, a continuing decline in longer term credit and a rapid rise in agricultural GDP. Still the increase in credit was clearly substantial (79 percent of the increase in agricultural GDP).

In spite of the above caveats, it is hard not to come to the conclusion that the agric. credit/agric. GDP ratio has been rising in

Jamaica in recent years because of the "deadwood syndrome". In short many of the loans outstanding (in the numerator) are deadwood, that is, in permanent default (as far as the credit institition is concerned) 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 agricultural credit is either not being applied to the agricultural sector or, if it is, it is 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 raises some serious questions about the need for a reform of the credit strategies adopted in recent years, a topic to which we will return in the final section.

The final issue warranting discussion in this section is the implicit subsidy built into the current credit strategies. Panel C of Table 5 presents estimates of the real rate of interest for agricultural credit. When one takes inflation into account, we note that the average interest rate charged for agricultural credit (from a low of 3 to 7 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

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 25 percent, a high level by any standard.

Thus we not only have a scenario within which credit appears to be increasingly used in an inappropriate (i. e., non agricultural) or inefficient fashion, but also a situation where the beneficiaries or borrowers are enjoying an unusual subsidy. In short the social costs of this credit strategy could be substantial if relatively large borrowers form an important part of the credit portfolio and, as pointed out earlier in this section, this would clearly appear to be the case. 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.

IV. INSTITUTIONAL PERFORMANCE: THE QUESTION OF ARREARS AND INSTITUTIONAL VIABILITY

A. Loan Size Distributions and Arrears

Three important questions concerning the performance of financial institutions (from society's standpoint) are: (1) who constitutes the clientele of this institution? (2) are they servicing their clientele effectively? and (3) is the institution financially viable? In applying these questions to the Jamacian scene we can evaluate the performance of the financial institutions and programs.

Tables 6 and 7 on loan size distribution offer an insight into the nature of the clientele serviced by the major credit institutions servicing agriculture. With over 50 percent of the total value of loans in loan sizes of $100,000 or more it is clear that commercial banks and the JDB service larger farmers while the SSFDP services much smaller (though not necessarily small) farmers. Indeed practically the entire portfolio of the SSFDP is in loan sizes less than $20,000 whereas only 16 and 5 percent fall within this lower loan size in the commercial banks and the JDB.

Comparable data on the loan sizes of the ACB and the Crop Lein program are not formally recorded and reported. Nevertheless it is not difficult to place them within this context. The direct loan portfolio of the ACB primarily services larger farmers. This is the consensus of the loan officials on the Credit Board and is borne out by the high average size loan for the entire portfolio. The quantitatively more important ACB line of credit to farmers through the P. C. Banks, however, is clearly far smaller farmers and consists of many small sized loans (which a larger farmer wouldn't feel was worth his time). In the broad spectrum from large to small farmer clientele we have commercial banks and the JDB at one end followed by the ACB direct line of credit, followed in turn by the medium to small farmer SSFDP loans and finally by the ACB-PC Bank portfolio and the Crop Lien program which represents small farmers.

TABLE 6

LOAN SIZE DISTRIBUTION FOR COMMERCIAL BANKS
AND JAMAICA DEVELOPMENT BANK
Jamaica, 1978

Loan Size	Agricultural Production in Commercial Bank X		Development Loans for Agric, Jamaica Development Bank (1)	
	Number of Loans	Amount of Loans	Number of Loans	Amount of Loans
	%	%	%	%
Under 5,000	73.5	9.1	3.7	0.1
5,000 - 19,999	9.0	7.2	22.0	4.6
20,000 - 49,999	8.0	12.2	42.7	23.3
50,000 - 99,999	5.8	20.0	13.4	15.9
100,000 +	3.7	51.9	18.3	55.9
	100.0	100.0	100.0	100.0

Notes: (1) Commercial Window

Sources: Loan files of Commercial Bank X and Jamaica Development Bank

TABLE 7

LOAN SIZE DISTRIBUTION OF SELF-SUPPORTING FARMER DEVELOPMENT PROGRAM (SSFDP) IN JAMAICA, 1977

Loan Size	Number of Loans	Amount of Loans
	%	%
Under 2,000	26.5	8.1
2,000 and under 3,000	23.3	13.9
3,000 and under 5,000	24.2	22.0
5,000 and under 11,000	22.1	41.7
11,000 +	3.8	13.3
	100.0	100.0

Source: Loan file of SSFDP

TABLE 8

ARREARS RATIOS FOR SELECTED AGRICULTURAL CREDIT INSTITUTIONS AND PROGRAMS IN JAMAICA IN THE MID TO LATE 1970s

	Arrears on Amounts Due (1)	Arrears to Total Loans Outstanding (2)
I. Commercial Banks[1]		
1) 1978	4.4[2]	4.4[2]
II. Public Sector Agricultural Credit Programs		
A. Jamaica Development Bank (Commercial Window)		
1) 1974	na	2.2
2) 1976	82.2	8.2
3) 1978	82.6	19.6
B. Self-Supporting Farmer Development Program (SSFDP)		
1) 1978	38.0	18.0
C. Agricultural Credit Board (People's Cooperative Banks)		
1) 1978	na	39.0
D. Crop Lien Program (Ministry of Agriculture)		
1) 1978	94.6[3]	94.6[3]

Notes:
1) From files of anonymous commercial bank in Jamaica in 1978.
2) Commercial Banks classify a debt as in danger or "arrears" due to a variety of factors in the subjective judgment of a loan officer. The loan does not have to be formally "due" to be classified and, conversely, a loan may be beyond the due date but not be in danger of non-payment and hence not classified.
3) Amounts Due and Loans Outstanding are the same here. This is a seasonal loan program.

Sources: From Loan Files of the Institutions or Programs in Question.

Table 8 summarizes the arrears record for all the institutions and programs in the Jamaican setting. The commercial banks register respectable recovery rates (i.e., low arrears rates); however, all the public sector programs record alarmingly high arrears rates (when expressed as a percent of accounts due--Col. 1). This raises a serious question as to whether any of these programs are financially viable. To place this issue in context it is helpful to discuss the large farmer and small farmer arrears separately even though the arrears are high in both areas.

B. The Large Farmer Arrears Issue

The JDB arrears issue is the classic large farmer delinquency problem. The JDB was originally set up in the early 1970s to service the medium to long run developmental needs of fairly large capital intensive activities. This is the classic issue of "modernizing" agriculture through capital intensive investments in the form of creating dairy or beef herds, installing dairy equipment, tractors, pumps, new pastures, fencing, wells, irrigation, new plantation crops, etc. .... These investments consisted of large average sized loans as seen in Table 6 and represented a substantial part of the net income in annual loans to agriculture in the mid-1970s as seen in Panel A, Table 4 (e.g., 36 and 31 percent in 1974 and 1976 respectively). Therefore any serious problem in delinquency in this program is in effect affecting an important component of the total credit portfolio and, moreover, one that is allegedly on the "cutting edge" of the modernization drive in Jamaican agriculture.

Table 8 offers some additional insight into this problem in the JDB with the wide discrepancy between Columns 1 and 2, between the arrears on amounts due (a roughly unchanging 81 percent) and arrears on loans outstanding (growing with time). The rapidly rising arrears on total loans outstanding from 1974 to 1978 (Col. 2) reflects the aging of the portfolio as more of the longer term debt falls due. This is not a useful measure of delinquincy. It hides the seriousness of the problem that is apparent in Column 1, namely a high arrears on the amounts due. Associated with this problem is the aging of the arrears itself as more of the outstanding debt falls due. In 1976 only 38 percent of the total arrears was overdue for 90 days or more. By 1977 this had risen to 82 percent.

Curiously the institution did not design its accounts in such a way as to detect the arrears on the amounts due until recently when pressed to do so by its international creditors. If the institution had established effective arrears accounting early on (say 1973 or 74) it would very likely have found a high arrears on what would have been the small amount due at that time. This could have alerted the authorities to the potential seriousness of the problem if nothing were done to arrest this trend as the portfolio matured. In retrospect it is clear that insufficient attention was paid to designing appropriate arrears rates and setting up the machinery to implement effective and timely collections. It is quite possible that if the early borrowers had been made forcefully aware of the presence of a rigorous collection procedure (instead of receiving due bills six months late), greater compliance could have been secured. Given the limited number of the portfolio (several hundred), selective visits by an appropriate official could have reinforced this repayment behavior early in the life of the loan. Now that the numbers and amounts have gotten out of hand, the possibility of turning this situation around is very problematical.

At the same time there was clearly a deficiency in loan appraisals despite the early emphasis to staff this division at the expense of the collection division. Arbitrary interference with established loan review procedures became common under the former Director of the Bank and, in retrospect, the institution has paid dearly for this behavior with rising arrears rates and low staff morale.[3] Growing resistance to repayment very likely has played a role in farmer behavior as a result of the disclosures about the Bank's management (which they were privy to beforehand in any event), the feeling that they could get away with it, the felt need to take care of other pressing expenses first, and finally, for some the inability to pay because of bad times. It is

[3]This state of affairs became known through the Auditor Generals reports in 1978 and 1979 reviewing the issues of conflict of interest and mismanagement in the JDB. The results of these findings have been made public in the Daily Gleaner news paper.

important for the bank to distinguish between the ability to repay and the willingness to repay in dealing with their customers. An economic intelligence unit is required to monitor the behavior of key farm costs as well as farm prices in the economy and the effectiveness of various marketing channels to determine the degree to which some of these farmers are truly constrained and unable to meet their payments and the degree to which they are merely unwilling to repay.

A final comment is in order on the policy of the international agencies. One cannot help but conclude that these sources (primarily the World Bank) were too eager to push more loan funds into the JDB than they were in a position to manage. This is frequently a problem in these programs. The JDB, on the other hand, found it difficult to exercise any self-discipline in this situation and was very likely ignorant of the pitfalls of accepting more than could be managed effectively. In large part they probably had little idea of how much they could manage effectively since they had not had any experience in administering these kinds of developmental loans before. In the end this places more responsibility on the international lender if only to protect his potential loan recovery. In this case it would appear that this responsibility was too lightly regarded.

Another issue that has arisen in the most recent years is whether the risk of devaluation should be passed on to the farmer (as the present contracts stipulate) or partially or completely absorbed by the government. Given the massive devaluations of the Jamaican dollar in the last year, this becomes an important, some say an insupportable, rising cost (in domestic currency) for local farmers who have incurred U.S. dollar linked local debt through drawing upon the World Bank line of credit in the JDB. Negotiations are still underway to settle the issue.

In summary the vulnerability of the JDB has increased markedly with the growing rate of arrears in its total loan portfolio. There is serious question about its financial viability in the light of no further capital inflows from international sources and the mere trickle coming back on its outstanding obligations. In retrospect the institution would have been less vulnerable if more of a banking mentality had prevailed in its original design. This perspective could have emphasized a more balanced portfolio of assets including shorter term and more commercial loans, while on the other hand drawing upon deposits for shorter term lending as well as international agency funds for longer term development loans. An extensive branch banking network would also have helped rather than centralizing all operations in one establishment in Kingston.

In short a different type of development bank may be in order, perhaps a merger with the successful, nationalized National Commercial Bank. In this case more rigorous banking practices could prevail with a shorter term and more secure portfolio and a deposit function to offer a broader array of financial services in the market. When this is combined with a scaled down but still significant longer term development portfolio supported in part from international sources, one has a much more balanced and less vulnerable financial institution that combines the virtues and discipline of commercial banking with the visions and long run commitment of development banking.

C. The Small Farmer Arrears Problem

Table 8 shows that the arrears performance of the smaller farmer credit programs, with one expection, are not any better than that for the large farmer JDB program. In short we have a wholesale delinquency issue that affects all public sector programs. The old line ACB-PC Bank program records about a 40 percent arrears in relation to loans outstanding. Not surprisingly their accounts are not designed to create an arrears measure on accounts due. No doubt this measure is considerably higher since there are medium term loans within its portfolio.

Through time the relative importance of the ACB program has declined. Its reputation has suffered as a result of its long standing arrears problem. Annual reports are intermittant and irregular. Sophisticated accounting and managerial practices deficient and loan appraisal and collection procedures perfunctory. The SSFDP program, originally established within the ACB in 1969, was transferred into the JDB in 1974. Government budgetary support to cover the ACB overhead, deficits and new loan capital has diminished in the face of competing demands by newer programs in the public sector. As a result there has been a decline in the real resources available for loans in this program during the 1970s (Table 3, Panel B). Finally when the Crop Lien program was established in 1977, it was housed in the Ministry of Agriculture instead of the ACB. At present the institution is engaged in a holding action on a diminishing base of real resources.

The Crop Lien Program is the most recent initiative to reach the small farmer. Launched in 1977 in a effort to stimulate local foodstuff production and save on foreign exchange for food imports, the program was widely publicized and, apparently, did reach a large number of farmers. The program was strictly short term and seasonal. Roughly nine and a half million dollars were dispersed to some 30,000 farmers. Alledgedly farmers with commercial, JDB or SSFDP loans were ineligible. Ministry of Agriculture extension agents engaged in the loan appraisals which were rather casual and perfuntory and retailed through local P. C. Banks. Repayments were expected to be voluntary with little if any inducement needed but, as is clear from Table 8, by financial standards, the program was a complete failure with only a six percent revoery rate (i. e., 94 percent arrears rate) after one and a half years of operation. Clearly a "grants" mentality was operating here with no serious sanctions for default, and, one might add,no serious consequences for the public officials responsible for designing the program with its built in failure for effective loan recovery.

The SSFDP program is currently the only public sector credit program with a modicum of success. The arrears rate in this program is only 38 percent for the amounts due and 18 percent for loans outstanding. In comparison to the JDB, ACB or Crop Lien Programs, this is a very respectable performance. Moreover this program has the additional challenge of promoting longer term developmental loans to small and medium sized farmers. However this success comes with a price, namely, a high supervisory overhead that is largely absent in the other programs. A highly decentralized set of field officers with separate staffs for loan appraisal, technical assistance and loan collection guarantee a close monitoring of loans by field personnel who are close to the farmer and local conditions. This is in sharp contrast to the JDB operations in which all these operations are conducted out of one central office.

In summary small farmer loan programs in Jamaica have been difficult to design and implement successfully. High arrears rates are common and a "grants" mentality difficult to overcome. Political support for non-repayment among many politicians reinforces this behavior and makes it even more difficult for public officials to correct the situation. The absence of effective sanctions (since foreclosures are either difficult or legally impossible depending on the program) and, at the same time, the absence of public accountability for poorly designed programs practically guarantees failure.

The only strategy that has succeeded to date is a highly expensive supervisory credit program that monitors (or pressures) the farmer so frequently that it prevents arrears from getting out of hand. At the same time there is a possibility that the farmer values the technical assistance he receives from this loan source highly enough that he does not want to risk being cut off from further assistance with high arrears. In any event the overhead supervisory costs in this program appear to offset to some extent the otherwise high arrears that would invariably emerge without it. In the end a highly subsidized supervised credit program like the SSFDP which at least inculcates more responsible repayment behavior and effectively implements on-farm investments is preferable to an equally subsidized non-supervisory program (like the ACB and Crop Lien) that saves on supervisory costs but generates high delinquency, poor credit attitudes and probably a diversion of resources to non-farm uses

V. CONCLUSIONS

We conclude this paper by reviewing the Jamaican experience over four broad areas: (1) the planning vs. the banking perspective; (2) the dilemma of development banking; (3) the issue of credit delivery to small farmers and finally; (4) the pathology of economic stagnation and constraints on financial reforms.

Jamaica, in the 1970's, has shifted between a planners and a bankers perspective on agricultural credit strategies. This struggle is still not resolved. The planners and characteristically the plan-oriented Ministry of Agriculture have always viewed credit from the credit use approach. In short, after the physical production targets have been established concerning how much agricultural output is desired, all policy instruments are directed to that end including credit. Arbitrary guidelines are established to determine how much credit input is needed to produce so much agricultural output. Credit programs are then launched to service these production programs. The most recent example of policy style is the Crop Lien Program. The fact that practically none of the loans were repaid in this program was considered of lesser importance than the fact that domestic foodstuff production increased substantially. There is an implicit assumption that the opportunity cost of public funds is low. The planners approach invariably transforms credit programs into income transfers and rationalizes their results after the fact.

The bankers perspective is less concerned with production perse and more concerned with institutional viability. Within this scenario bankers are more concerned with the proper evaluations and administration of loans, concerned about changing a sufficient rate of interest to cover costs, determined to protect their cash flow through low arrears (emphasizing collateral and foreclosure) and pessimistic about the possibilities of servicing the credit needs of small farmers without extensive monitoring, supervisior and collection machinery. The JDB and SSFDP credit strategies reflect this thinking, however, in the case of the farmer, poor performance has not only damaged the institution but compromised the credit strategy as well. At present the current impasse between the planners and bankers approach is at a stand-off with no firm political direction being offered by the government to resolve this dilemma.

The development bank dilemma grows out of this impasse. The poor performance of the JDB has seriously compromised its financial viability and the institutional credibility it once enjoyed. The period of growth and expansion is over. The institution now faces a painful period of retrenchment and slow recovery. More effort has to be spent in recovering loans, foreclosing on properties and rescheduling loans for salvagable projects. The "grants" mentality, favoritism and the image of lax loan administration must be changed before the institution can function again effectively and draw on outside funding. The possibility of diversifying its loan portfolio to include more short terms liabilities and assets is an interesting possibility but one which must follow rather than precede the retrenchment and recovery strategies.

Public sector credit delivery to small farmers has proven difficult in most countries and Jamaica is no exception. The possibility of achieving this goal and maintaining the financial viability of the institution offering this service is slim. Quick and widespread dissemination of credit invariably leads to an ad-hoc income transfer program. On the other hand, careful, expensive supervising of small farmer loans may reduce arrears but the high operating costs limit the scope of the program and, in the end, may not be much more cost-effective than a low cost unsupervised program with high defaults unless the loan recovery rate is high.

More helpful here would be a package of agricultural policies that distributed inputs in kind at subsidized cost and promoted minimum price programs and marketing arrangements that would reduce the risk of income variance. Minimum prices affect all farmers equally whereas subsidized credit programs are invariably rationed and, in the end, only favor those who have access to the credit institutions. Policies promoting off farm employment and income opportunities in rural areas could also improve the economic welfare of small farm families. Also we should not forget that informal credit channels are very likely servicing small farmers more extensively than is commonly known. In light of this, the social return to the use of public sector resources would be higher if applied in a combination of the above policy initiatives to reach small farmers rather than drained off into an ineffectively and inequitably administered credit program with high default rates.

Finally the pathology of economic stagnation is currently constraining the prospects for financial reforms in Jamaica today. Under more normal circumstances the growing pattern of distortions in the financial sector which create a negative real rate of interest environment and inequitable credit subsidies could be dealt with through interest rate reforms. Similarly the declining rate of savings and implicit taxation of small savers for the benefit of larger borrowers could be corrected through the same reforms. By raising savings deposit rates of interest sufficiently to promote a positive rate of interest, savers would no longer be penalized. At the same time banks could protect their operating margins by raising their loan rates to borrowers, charging an interest rate that more closely corresponds to the true opportunity cost of capital and eliminating the unfair advantage borrowers currently enjoy with negative real rates of interest. Public sector programs could also limit the drain on government resources by raising interest rates to more adequately reflect the opportunity cost of government funds.

The constraint in this otherwise sensible strategy is the lack of demand for loans in the economy in the face of a severe economic recession. The high level of excess liquidity in the commercial banking network suggests that banks would be unable to find customers for these higher cost loans until overall inflation is effectively controlled and economic recovery underway.

One common way to deal with this state of affairs is to institute a rigorous stabilization program which promotes an expansion of exports, sharp devaluations, wage controls, budgetary constraints, indexing for inflation and drastic financial decompression. This usually takes several years and requires a strong non-democratic authoritarian regime to implement the measures effectively and repress the inevitable popular reaction against the short term results with high social costs. The examples of South Korea, Taiwan and post 1973 Chile come to mind here. This is hardly the political model that would conform to Jamaica's more democratic traditions.

Jamaica has currently adopted an IMF stabilization plan in order to borrow stand-by credits to forestall international bankruptcy. As a consequence it has adopted a good portion of the above measures. However it has not adopted the drastic financial reforms that would change the structure of interest rates and index financial instruments for inflation. The political cost of such measures is considered too high. Such a move would very likely be interpreted as favoring the private sector more than is appropriate in the present state of national sacrifice for economic recovery. Also the question remains as to how one moves from the present set of distortions into a more logically structured financial sector in the face of a prolonged recession with a lack of loan demand creating excess reserves in the banking systems.

Thus the prospects for eliminating the inequitable and inefficient credit subsidies currently built into the negative real rate of interest setting are slim. This less than ideal structure of interest rates is bound to remain in place until inflation is reduced or some indexing formula adopted, both being unlikely events in present day Jamaica. This implies that savings will continue to be penalized and various forms of non-price rationing utilized to allocate public sector credit. The growth in the supply of agricultural credit will be much slower than in the early and mid 1970s with a much smaller number of farmers serviced. Only a significant reduction in inflation and a modest economic recovery can create the conditions that could modify this pessimistic scenario, creating the policy space (i.e. room for maneuver) that would permit the financial reforms that are so necessary in Jamaica.

REFERENCES

This study has drawn heavily upon official and confidential sources not ordinarily available through published channels. This is particularly true with respect to the quantitative data used to create the performance indicators of loan activity for all the major credit institutions and programs analyzed in this report. The remaining references are listed below:

Adams, Dale W, "Policy Issues in Rural Finance and Development," paper presented at Conference on Rural Finance Research, San Diego, California, July 28-August 1, 1977, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio.

Adler, J. H., "The World Bank's Concept of Development - An In-House Dogmengeschichte," in Development and Planning edited by J. Bhagwati and R. S. EcKaus, Allen and Unwin, London, 1972.

Adler, J. H., "Development Theory and the Bank's Development Strategy -- A Review," in Finance and Development, Vol. 14, No. 4, 1977.

Agricultural Credit Board, Annual Reports, various years.

Bank of Jamaica, Statistical Digest, various years.

Blair, Harry W., "Rural Development, Class Structure and Bureaucracy in Bangladesh," World Development, Vol. 6, No. 1, 1978.

Department of Statistics (Jamaica), Consumer Price Indices, various years; External Trade, various years; The Labor Force, various years; Monetary Statistics, various years; National Income & Product Account, various years; Production Statistics, various years, Statistical Abstract, various years.

Graham, Douglas H., Compton Bourne and Girma Begashaw, "Rural Financial Markets in Jamaica: Analysis of Performance Problems and Recommendations," Report to USAID/Jamaica, October 1978.

Jamaica Development Bank, Annual Reports, various years.

Lele, Uma, "The Role of Credit and Marketing in Agricultural Development," in Nurul Islam ed., Agricultural Policy in Developing Countries, MacMillan, London, 1974.

Lipton, Michael, "Agricultural Finance and Rural Credit in Poor Countries," World Development, Vol. 4, No. 7, 1976.

Ministry of Agriculture, National Production/Extension Report, 1978.

National Planning Agency, Economic and Social Survey - Jamaica, various years.

Self-Supporting Farmers' Development Program, Annual Reports.

Self-Supporting Farmers' Development Program, Socio-Economic Evaluation Report, 1977.

Carl Stone, "Tenant Farming Under State Capitalism," in Essays on Power and Change edited by C. Stone and A. Brown, University of West Indies, Extra Mural Department, Jamaica, 1976.