Regional Monetary Studies Conference
Barbados, 1971

AGRICULTURAL FINANCE IN THE COMMONWEALTH CARIBBEAN:

A PRELIMINARY REPORT

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Agriculture occupies a position of high prominence in the Caribbean economy. This statement requires no elaboration before this Conference. Yet it is often said that the financial facilities afforded to agriculture are not commensurate with that sector's importance. The basis for this view can be summarised by the following propositions.

PROPOSITION 1

The volume of institutional credit extended to the agricultural sector is small.

The institutions generally referred to are the commercial banks. Reference is usually made to the share of agricultural loans in the total loan portfolio of the banking system. It is recognised, however, that public agencies sometimes operate as quantitatively significant suppliers of credit.

PROPOSITION 2

The greater part of agricultural credit is by non-institutional lenders, notably professional money-lenders, traders, and shopkeepers.

This proposition has received indirect support from survey evidence compiled in Asia, Latin America, and by Mc Morris in Jamaica.

PROPOSITION 3

The low volume of institutional credit is largely the result of:

(a) agricultural production risks

(b) the absence of adequate collateral;

and (c) the disparity between the preferred maturity structures of borrowers on the one hand and lenders on the other.

Some aspects of the proposition may be elaborated on. Variability in the quantum and quality of farm output implies in general fluctuating levels of incomes and as a consequence reduced credit-standing. Income fluctuations in agriculture have the peculiar characteristic of being determined to a significant extent by weather conditions, in addition to more generalized product market factors such as demand changes. Output and quality fluctuations can be minimised by improved productive techniques and thus is

directly influenced by the level of the farmer's education and skill.

On the issue of collateral, the factors regarded as militating against the farmer's ability to borrow from lending institutions include the lack of proper legal titles to land and buildings, little or no mechanical equipment, and a high level of indebtedness.

One of the earlier findings of our field research is the high incidence of tenant farming in Guyana. Out of 1078 sample farm units, 550 (more than 50%) owned less than 50% of the land they cultivated, and a further 42 owned more than 50% but less than 100% of the land they farmed. (See Table 2)

In addition to the inadequacy of collateral, there is persuasive theoretical and ad hoc reason for thinking that agricultural borrowers' preferred loan repayment schedules do not harmonise with those of commercial lending agencies. Firstly, there is the presumption (about which we shall say more later) that loan finance is sought mainly for farm improvements and capital formation -- projects of relatively long gestation periods. On the other hand, institutions like commercial banks have a traditional preference for short and medium term loans. Finally, we may note that governments have found it necessary to establish special agricultural credit agencies to deal explicitly with

the problem of medium and long-term credit.

On the whole, therefore, it is not unreasonable to expect agricultural production risks to be i) reflected in the level and variability of farm incomes; and ii) influenced by the level of the farm manager's education. Similarly it is reasonable to expect the quality of collateral to vary directly with i) the frequency of owner-farmer units, ii) the level of farm wealth (or asset-liability ratio). And finally, borrowers' desired loan repayment schedules are likely to vary inversely with the level of their wealth and incomes.

As a result, Proposition Three can be stated equivalently as:

> "The greater their wealth, the higher and more stable their incomes, the higher the level of their education, the more likely it will be for farmers to borrow from the institutional credit market."

PROPOSITION Three and Two together imply the following:

PROPOSITION 4

Non-institutional lenders impose less stringent loan Security Conditions.

Were the terms of agricultural credit extended by non-institutional lenders considered satisfactory by agriculturists and policy - makers, there would be little concern

exhibited over the present breakdown of credit between sources. However there is the almost universal view which we state in the following proposition:

PROPOSITION 5

The price of non-institutional credit is too high.

This proposition embodies two distinct statements. Firstly, that the absolute level of interest rates is high; and secondly, that the level is much higher than justified by conditions on both sides of the loan market, such as Credit risk and administration costs.

The evidence of unwarrantedly high interest rates is usually attributed to the exercise of monopoly power by the few lenders who operate in the informal credit market. That is, the exorbitant price of agricultural credit is largely a reflection of a particular market imperfection which can be stated in terms of the proposition that:

PROPOSITION 6

The non-institutional credit market, though highly differentiated with respect to types of lenders, is highly monopolistic.

A final element in the so-called inadequate financial system as it pertains to agriculture is given by proposition seven.

PROPOSITION 7

Certain types of crops, specifically export crops, are discriminated in favour of.

This situation represents an obstacle to policies of agricultural diversification and diminished export dependence.

The state of agricultural credit has significance in inverse proportion to the degree to which agricultural production is internally financed i.e. financed by farmers' own resources. The inadequacy of agricultural credit facilities is a critical short-coming only to the extent that the volume of internal finance is low, and to the extent that its potential growth is limited. It is therefore inevitable that any serious empirical work on agricultural finance should put forward definite hypotheses about the volume of and determinants of internal finance, and attempt to produce evidence to confirm or reject those hypotheses. For the purpose of this study, we state the following propositions:

PROPOSITION 8

The volume of internal finance is low, and consists essentially of farm savings.

Thus this proposition not only specifies the level of own-farm finance absolutely or in relation to total finance requirements, but also singles out categorically its major component.

PROPOSITION 9

The volume of farm savings is primarily determined by the level of farm incomes. A hypothesis of this nature about the determination of farm savings and consequently about the determination of farm internal financial resources has a definite implication for agricultural credit policy. If the hypothesis is true, Credit shortages can be viewed as the strategic bottleneck. For it is often argued that increases in agricultural productivity(upon which levels of incomes rest) are conditional upon the modernization of agriculture by increased application of chemical fertilizers, better water control methods, mechanical cultivation and harvesting, and larger landed units. All of which impose certain large financial commitments. Effectively it may well be that an increase in the self-financing capacity of the agricultural sector requires a prior improvement in agricultural credit facilities.

It is clear that the loan finance constraint on agricultural productivity is less binding if there are alternative credit facilities such as feed supply programs, and credit-sale of agricultural equipment and supplies. In recognition of this argument, we state for examination the following proposition.

PROPOSITION 10

There is significant utilization of hire-purchase and other credit-sale facilities provided by firms or other rural agencies for the purchase of agricultural equipment and supplies.

Some mention was made earlier of the connection between credit finance and particular categories of form expenditures. There is certainly the implicit assumption in most writings on agricultural credit that farmers borrow generally, for from particular sources, for farm improvements. Though we will not state this idea in the form of a clear proposition, some attempt will be made to establish its accuracy as a behavioural description.

Propositions 1 to 10 embody the main hypotheses about agricultural finance which this study has formulated and will attempt to test. The study is an empirical one. Data is being collected for a large number of financial variables. Among these are broadly:

1) External Finance Obtained, 1968-1970, in annual totals, and disaggregated with respect to types of sources.

2) Internal Finance, 1968-1970, in annual totals, and disaggregated with respect to sources, mainly savings and tax concessions.

3) Farm Incomes, Expenditures, and Taxation.

4) Utilization of Credit Sale Facilities.

5) Loan Rates of Interest, Repayment Periods, Collateral Required and Supplied.

6) Purposes for Borrowing, and Association Between Particular Sources and Loan Uses.

7) Assets and Liabilities of Farm Units.

A clearer impression of the range of information requested can be obtained from the questionnaires, copies of which are before you.

Information is also being collected on several background aspects of farming behaviour, especially information on the level of farmers' education and training, size distributions, and distributions by farming activity.

Our approach has been that of a sample survey. We selected Guyana as our initial country of study.

The basic sample frame was the list of enumerated farms from the 1968 Census of Agriculture conducted by the Ministry of Economic Development. The census enumerated 37,281 farms of size 50 acres or less, and between 400-500 farms of sizes greater than 50 acres. From an inspection of the 'greater than 50 acres' farms, it was discovered that very often not more than 19 to 30 acres was cultivated in any one crop year. Effectively therefore many apparently 'large' farms were, if measured by cultivated area, small farms. For this reason, it was decided to sample those enumerated at 50 acres or less.

The choice of a sampling fraction was a difficult one. The large number of farms argued on the one hand for a large sampling fraction, but on the other hand implied considerable expense. The issue was resolved by noting the general uniformity of crop patterns and by noting too certain impressionistic evidence of geographic concentration of certain agricultural activities. Our solution was to adopt a 3% sample from the farm population divided into 10 strata. This has the merit of capturing within a relatively small sample, the uniformity and diversity of farm behaviour in Guyana. The strata corresponded to administrative districts. Three of these were omitted - two (Bartica and Mazaruni/Potaro) because the sample numbers involved (11 and 18) were two few to justify the high level of expenditure that would have arisen, and the third (Rupununi) because it was not censused (a result of the uprising).

The total sample size is 1162 farm units. To ensure maximum possible response compatible with minimum survey costs, we adopted a technique of substitutable sample units i.e. when, say the 33rd farmer is unavailable or non-cooperative, we sample the 32nd or 34th farmer.

The actual field work is being conducted by Agricultural Officers and Field Assistants of the Ministry of Agriculture. They will be paid a small fee for their services. The decision to use Ministry of Agriculture personnel was motivated by 3 factors:-

1) They are more familiar with farm practices, equipment, and the farmers, are in a better position to judge and challenge the accuracy of information provided by farmers. Field investigation have been advised to submit separate and or independent valuations on some farm assets when the veracity of the farmer's response is seriously doubted.

2) By virtue of their closer working association with the farming community they are in a better position to gain the confidences of farmers.

3) Since they work and reside in the districts and perhaps can tie in the survey with their normal duties, the total field costs is likely to be much less than if University personnel attempted themselves to handle this phase of the operation.

Two brief training sessions were held with field investigators (both enumerators and supervisors). At these sessions, the purpose and method of the study was carefully explained. Much time was spent discussing the details of the questionnaire, and in particular the meaning of certain terms and the practice of coding we have adopted to secure anonymity of respondents. In addition, written instructions and explanatory notes were distributed to each field assistant.

We experienced some delays in the commencement of field work, largely as a result of some administrative problems within the University and within the Ministries of Economic Development and Agriculture. However, the project is now fully underway.

At the date of writing, most districts are almost completed. Certain difficulties have manifested themselves in a particularly acute form in some districts. Some of the sample units have proved inaccessible or refuse to cooperate for a variety of reasons. In the North-West District, which is heavily populated by Amerindians, whole families and 'villages' have moved out and shifted to other areas. The exact incidence of these problems, however, must await full returns from the field staff. These returns, we anticipate, will be in within two to three weeks.

From the data at our disposal at the moment, the following general conclusions seem valid (Details are in Tables 1 - 4):

1) Most farms (94%) are under 20 acres large, with a concentration (76%) under 10 acres.

2) Rice cultivation and milling, poultry, livestock, and ground provisions are the activities that the majority of farms engage in.

3) Some activities are concentrated in specific districts. For instance, the Demerara River, East Bank Demerara, West Bank Demerara and West Coast Demerara exhibit a greater specialization in the growing of ground provisions. Berbice, East Coast Demerara, and the Essequibo Islands are mainly rice farming areas.

The finding on ownership distribution we have already mentioned.

There is little else to report at the moment. The project began in October last year. Much time was spent initially in formulating suitable hypothesis, in designing

the survey, and in constructing a sample list. Primary data collection did not begin until early this year, and for reasons beyond our control the major questionnaire was not dispatched until the first week in April. We are continuing the work of refining our hypotheses. As soon as the survey data comes in (say by the end of June) we will begin the office task of assembling and tabulating the primary data into forms suitable for statistical analysis.

We are aware of the need for high speed computational facilities, and are at present, and in cooperation with Mr. Gajraj of the Department of Mathematics and Mr. Godfrey Procter of International Business Machines Ltd., trying to work out a suitable computer routine. We anticipate too that for reasons of economy we shall have to make some demands on the computer facilities at the Mona Campus of the University of the West Indies.

In conclusion, I wish to acknowledge the able statistical assistance provided by Miss Jasmin Singh and Mr. Claremont Kirton.

SOME FREQUENCY DISTRIBUTIONS

ALL DISTRICTS

TABLE 1 Size Distribution of Farms

SIZE OF HOLDINGS(ACRES)	% FREQUENCY
0 - 0.99	17.5
1 - 1.499	39.2
5 - 9.99	18.5
10 -19.99	18.5
20 -49.99	6.1
Total	99.8

TABLE 2 Ownership Distribution of Farms

OWNERSHIP RATIO	% FREQUENCY
All Land (100%)	45.0
Less than 100 but over 50%	3.8
Less than 50%	51.0
Total Frequency	99.8

TABLE 3 Distribution of Farm Activity

FARM ACTIVITY	% OF FARMERS ENGAGED IN
Paddy Planting	23.9
Rice Milling	21.0
Citrus	1.9
Coconuts	7.5
Ground Provisions	11.9
Livestock	13.2
Poultry	20.7
Total	100.1

TABLE 4 DISTRIBUTION OF FARM ACTIVITY - INDIVIDUAL DISTRICTS

DISTRICTS	FARM ACTIVITY % FREQUENCIES						
	Paddy Planting	Rice Milling	Citrus	Coconuts	Ground Provision	Live-Stock	Poultry
1. North West	0	0	8.1	29.7	45.9	0	16.2
2. Demerara River	4.0	4.0	8.0	8.0	48.0	4.0	20.0
3. East Bank Dem.	0	0	20.6	3.4	41.3	17.2	17.2
4. West Bank Dem.	10.6	10.2	2.1	3.1	35.1	12.7	25.5
5. West Coast Dem.	22.8	22.2	3.0	1.8	16.8	10.2	22.8
6. East Coast Dem.	16.3	11.3	0	9.9	11.9	22.1	28.2
7. Essequibo Islands	26.5	25.5	0.5	4.1	9.3	10.4	23.4
8. Essequibo Coast	23.4	18.9	1.7	6.3	11.1	15.7	22.6
9. Est Berbice	26.6	23.6	2.4	9.6	4.5	13.9	19.0
10. East Berbice	28.7	26.3	1.4	6.8	8.1	11.2	17.2