

FARM FINANCE DATA :
AVAILABILITY AND REQUIREMENTS

Glen Greer

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THE AGRICULTURAL ECONOMICS RESEARCH UNIT
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Major sources of funding have been annual grants from the Department of Scientific and Industrial Research and the College. However, a substantial proportion of the Unit's budget is derived from specific project research under contract to government departments, producer boards, farmer organisations and to commercial and industrial groups.

The Unit is involved in a wide spectrum of agricultural economics and management research, with some concentration on production economics, natural resource economics, marketing, processing and transportation. The results of research projects are published as Research Reports or Discussion Papers. (For further information regarding the Unit's publications see the inside back cover). The Unit also sponsors periodic conferences and seminars on topics of regional and national interest, often in conjunction with other organisations.

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PREFACE

This paper reviews data availability and requirements relating to farm finance. The paper identifies the gaps in farm finance data that would need to be addressed, if an improvement in the current information system for farm finance was sought. The paper has been prepared by Glen Greer, Assistant Research Economist in the A.E.R.U., in conjunction with Mr J.G. Pryde.

Other recent A.E.R.U. publications on the subject of farm finance include Research Report No. 114 by J.G. Pryde and S.K. Martin entitled "A Review of the Rural Credit System in New Zealand, 1964 to 1979".

P.D. Chudleigh
Director

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1.1 The Objectives of the Study

The Royal Commission on the Monetary, Banking and Credit System (1956) first recommended that improvements should be made in the statistics relating to the agricultural sector in New Zealand. Since that time the need for improvements in both the quantity and quality of statistics relating to capital supply and investment, in order to provide a sound base for policy decisions, has frequently been noted (Agricultural Development Conference, 1966; Johnson, 1970; Lending to Farmers, 1972; Monetary and Economic Council, 1966). Such statistics are required not only to monitor the effects of policies aimed specifically at the agricultural sector, but also to determine the impact of broader monetary policies on the rural credit market.

However, although the need for detailed information has been recognised it has not been determined exactly what the data requirements are with respect to agriculture, and the statistics available do not yet provide a comprehensive picture of agricultural financing.

The objective of the study described in this paper was the identification of the data required in order to monitor rural finance, and the review of available data in the light of these requirements.

1.2 Background

The availability and cost of finance within the agricultural sector is generally assumed to exert an indirect but important effect on the level of total agricultural production through its effect on investment (Agricultural Development Conference, 1963-64). Because of the contribution made by the agricultural sector to New Zealand's economic viability (71 per cent of export earnings in 1980-81), it is most important that the resources required for the expansion of agricultural output, in both the traditional and non-traditional areas of production, are available (Lending to Farmers, 1972). It has been stated (Growth Potential in Agriculture, 1980) that perhaps the most vital of the resources needed, if the desired increase in agricultural output growth during the 1980's is to be achieved, is the supply of adequate capital.

Sources of non-equity capital for the New Zealand farmer have been identified by Pryde and Martin (1981). Most seasonal and short-term finance has been provided by stock and station firms and trading banks with co-operative dairy companies also making a contribution. A large proportion of medium-term finance is currently provided by the trading banks and the Rural Bank while trustee and private savings banks, finance companies and building societies also lend in the medium-term. Current sources of long-term finance include the Rural Bank, trustee savings banks, life offices and trustee companies. As well as these institutional credit sources a significant proportion (25% of total farm

liabilities in 1977) of farming loans are made by family members or by other private individuals.

Participants in the rural credit market can be classified according to whether they are involved in the supply of farm finance, the demand for finance, or in the making of policies concerned with the operation of the market. In New Zealand the Government plays a major role in the area of farm finance, both in the supply of funds and in determining policies which have a major effect on the activity of the market. Several Government departments and Government-owned corporations are directly involved in the provision of funds for farming. The Rural Bank is the main lender of Government finance, and provides more than one third of the estimated total value of loans associated with farming. The Department of Maori Affairs provides finance for farming enterprises owned by Maoris and the Department of Lands and Survey administers the Land Settlement Board loans to settlers of ballot farms. The Department of Lands and Survey was also responsible for the administration of the Marginal Lands Board, abolished in early 1982, which acted as a Government lender of last resort providing finance for the development of marginally economic properties. The Board's activities have now been taken over by the Rural Bank. Although the Development Finance Corporation has had relatively little involvement in the area in the past, the Corporation has increased lending to the farm sector, particularly to syndicated horticultural enterprises, during the last financial year.

In addition, Government has sought to encourage the flow of funds to agriculture from both trading banks and life offices by indicating lending priorities.

The extent of Government involvement in agriculture means that politicians and the staff of Government institutions, such as the Reserve Bank and the Ministry of Agriculture and Fisheries, regularly must make new decisions and review past decisions relating to agricultural financing.

There are a number of long-term national policy issues related to agricultural financing which may require review in the light of changing economic and market conditions, their success in furthering Government objectives and their effects on undesirable economic phenomena such as land price escalation. These include concessional interest rates for farming, and the specific farming purposes for which funds are allocated under the lending policies of these institutions.

In the short term decisions must be made on the annual allocation of funds to Government institutions and on the need for special financing arrangements in times of climatic stress. It is essential that policy-makers at both the national and institutional levels be able to plan for changes in demand and be aware of developing shortfalls in supply.

Because of the importance of the agricultural sector in New Zealand's economy it is important that Government be aware of the effects of policy instruments, used to achieve the objective of the economy as a whole, on the agricultural sector. Such analysis is not

possible without accurate data. For example, although it has been assumed for many years that the monetary policies implemented in New Zealand have benefitted the agricultural sector (Nicholl, pers-comm, 1982) there is no statistical basis for this assumption. Without soundly-based time-series data it is not possible to explore the relationships between such policies as interest rate controls and farm financing.

Until the Government has the necessary background data to make objective decisions on the direction of Government funds to the agricultural sector and on the allocation of those funds within the sector, there exists a risk that groups of farmers selected for targetted assistance will not be those most in need of assistance, or that the assistance is not being given where the nation will benefit most.

Private sector institutions, particularly the trading banks and stock and station firms, also have a major involvement with the supply of farm finance. Policy-makers within those organisations would benefit from the provision of accurate information on the state of the rural credit market and the flows of funds within the agricultural sector. Such information would assist in making base decisions concerning budgeting and the financial services provided to farming clients.

Individual farmers, who make up the demand side of the rural credit market, are unlikely to be concerned with the macro-aspects of the rural credit market. However, they would unquestionably benefit from the greater market efficiency which would be possible when more information is available to those involved in decision making and credit supply.

1.3 The Organisation of the Paper

On the basis of discussions held with representatives of a number of the institutions involved in rural finance, a list of the data required in order to build-up a complete picture of the rural finance situation in New Zealand has been formulated. Representatives of the following institutions were asked which aspects of rural finance they considered to require more accurate or comprehensive statistical coverage.

- Ministry of Agriculture and Fisheries
- Reserve Bank of New Zealand
- Rural Banking and Finance Corporation
- Treasury
- Department of Maori Affairs
- Development Finance Corporation
- Life Offices Association of New Zealand
- Finance Houses Association
- New Zealand Meat and Wool Boards' Economic Service
- New Zealand Dairy Board
- Trading Banks
- Trustee Savings Banks
- New Zealand Law Society

The list of data requirements derived in this manner was then extended to include additional aspects considered by the author to be of importance for policy purposes.

Information on farm finance may be divided into two categories. The first consists of objective data, collected regularly and published while timely, covering all the aspects of loans to farmers which are discussed in Section 2. These statistics will be of use to policy-makers and researchers in the estimation of future requirements for Government assistance to farming, for econometric modelling of demand for credit in the rural sector, to help understand the investment behaviour of farmers, and to provide background data for use in other policy studies. These data permit static analysis of the market only. The state of the market can only be assessed by comparing the situation at the end of one period with that of previous periods.

In order to gain greater understanding of the dynamic forces acting in the rural credit market a second category of more subjective information would be required. This information, gathered from both farmers and senior staff of institutions such as the Ministry of Agriculture and Fisheries, the Rural Bank, stock and station agencies etc, would provide insight into likely demand for future credit and the reasons for changes which occur, based on the physical and economic climates within specific regions. It could also provide other useful information on farmers' attitudes to credit and credit sources. Such information, collated to provide background information for policy-makers and suppliers of credit, would facilitate more rapid response to changes in the market than could be expected if the only data available were retrospective. Subjective data requirements are discussed in Section 3. In Section 4 the frequency of data collection is briefly discussed and in Section 5 the requirements and their availability are summarised and some conclusions stated.

2 Objective Data Requirements and Availability

2.1 Source of Loans

Knowledge of the total value of loans outstanding from all lenders (including private loans formalized through solicitors) would facilitate calculation of the level of total farmer indebtedness and the relative importance of different types of institutions as suppliers of farm finance. Over time, changes in total indebtedness and relative institutional importance could be observed.

As has been discussed, the Government through, for example, the Rural Bank has some direct control over institutional lending to agriculture. In addition, the level of involvement of some institutions in providing finance to the agricultural sector has been one of the factors taken into consideration when adjustments to the Government Securities Ratio for these institutions have been made. Trading banks have also been given indications as to what their priorities should be in formulating a lending policy. Table 1 shows the value of loans outstanding at March 31 1981 for those institutions required to submit returns to the Reserve Bank and for major Government institutional lenders.

At present, trading banks, private savings banks, trustee savings banks, large finance companies and stock and station agencies all furnish monthly, quarterly, two-monthly or annual returns to the Reserve Bank which include the total value of loans outstanding, by sector. With the exception of private savings bank and finance company returns, these all detail loans to agriculture (including horticulture) separately. Finance Company statistics do not separate agriculture and fishing, and many loans actually made for farming purposes are classified as personal loans, appearing in the statistics as such. Private savings bank returns include forestry, fishing and mining under the heading "farming". Trading bank returns classify agricultural loans as term lending or overdraft, as well as providing details of overdraft limits and unused overdraft facilities. While the Rural Bank does furnish a return, the details of this are not published.

It is not, however, possible to derive the total value of farm loans using information acquired from these returns. At present, trustee companies and private superannuation schemes do not file returns and data are not available on the lending activities of either. These institutions, however, make up a comparatively small part of the market. Only 2.6 per cent of intended applications for loans during the 1981-82 season were to be made to trusts or trustee companies (Pryde, 1981) and, in 1977-78, 4.5 per cent of farm liabilities were held by these institutions (Pryde and Martin, 1980). A much more serious difficulty is the lack of statistics relating to private loans which are most frequently family loans formalized by solicitors. Solicitors and solicitors' nominee companies are not required to furnish returns to the Reserve Bank, and a recent attempt by the Bank to conduct a regular survey eliciting information about solicitors' lending activities was abandoned because of low response rates (Deane, pers. comm., 1982).

Table 1Institutional Lending to the Farming Sector as at 31 March 1981

INSTITUTION	MILLION \$	% OF TOTAL
Rural Bank	1,242	
Marginal Lands Board	32	
Dept. Maori Affairs	47	49
Development Finance Corp.	13	

SUB-TOTAL	1,334	

Life Insurance Companies	256	
Trading Banks	510	
Stock and Station Agents	404	
Private Savings Banks ^a	47	51
Trustee Savings Banks	67	
Large Finance Companies ^b	113	

TOTAL	2,713	

a Includes Fishing, Forestry and Mining

b Includes Fishing

Sources: Reserve Bank (Quarterly returns unpublished)
 Rural Bank Annual Report
 Department of Maori Affairs Annual Report
 Department of Lands and Survey Annual Report

The Department of Statistics collects and publishes details of the total number and value of land transfers and mortgages registered. Before 1975 rural and urban mortgages were reported separately but since that time the division has been made according to size of property only. Although a very rough estimate of the value of rural mortgages registered may be made by excluding mortgages over properties of less than two hectares, it must be remembered that purchases of land for large scale manufacturing, forestry, recreation, subdivision etc. are all included in these figures.

The inadequacy of institutional records as a source of information on the total value of farming loans outstanding is not compensated for by data obtained from farmer surveys. At present the results of four continuous economic farm surveys are published:-

N.Z. Meat and Wool Boards' Economic Service (MWBES), "Annual Survey of Sheep and Beef Farms"

N.Z. Dairy Board, "An Economic Survey of Factory Supply Dairy Farms in New Zealand"

Agricultural Economics Research Unit (A.E.R.U.), "An Economic Survey of New Zealand Town Milk Producers"

Agricultural Economics Research Unit (A.E.R.U.), "An Economic Survey of New Zealand Wheat Growers"

All of these surveys collect some information on the liabilities outstanding on properties surveyed, although the detail in which this is reported varies between surveys.

In addition, the Statistics Department has completed an economic survey of pig farms for the 1980-81 year and although these results have been published only briefly as a news release, they will eventually be included in the 'Agricultural Statistics' bulletin. The Department also has plans to introduce surveys of the cropping and horticultural sectors during 1983. However, there must be some doubt as to the reliability of information on financial matters obtained from farmers by postal survey unless, as is the case with the Dairy Board, there is a strong relationship between the farmers involved and the surveying institution. Farmers are less likely to be co-operative where information is demanded under the provisions of the Statistics Act.

The Wheat Growers' Survey provides the most comprehensive breakdown of the sources of liabilities. Eight sources of fixed liabilities and three of current liabilities are detailed while the remainder are grouped as 'other'. An important distinction not made is the distinction between different types of banks (trading, savings and trustee) which offer different services and are governed by different regulations.

Both dairy surveys divide liabilities into broad general categories and the MWBES Survey divides them into current and fixed only. However, the MWBES are presently conducting a supplementary survey in conjunction with their annual survey, which is designed to elicit full details of

the term liabilities of farmers in their sample, as at 30 June 1980. The results of this survey should be published early in 1983 (Davison, pers. comm. 1982). By the time of publication, the information obtained by this survey will be almost three years old, and therefore more useful as a source of information for researchers than for policy makers.

The Ministry of Agriculture and Fisheries' Rural Credit Surveys, with the exception of the first survey which was conducted in 1963, collected details of liabilities under the four headings, Government, Institutional, Relative and Other and therefore does not provide as useful a record of changes in the patterns of lending to farmers as may have been expected from such a survey. In addition, these surveys have covered only agricultural properties, and have in later surveys been limited to sheep and dairy properties.

Just as institutional records fail to provide the information required because only part of the market is covered at present, farm surveys cover only part of the agricultural sector. Although the dairy industry and the sheep and beef industries are covered by existing surveys, arable farmers not involved in wheat growing and the whole of the rapidly expanding horticultural sector are not, as yet, surveyed on a regular basis. A further difficulty encountered when trying to base an understanding of the farm finance scene on data obtained from existing surveys is that these surveys generally include only farmers whose financial situation has 'stabilized'. This means that first year farmers are almost always excluded, so the data on sources of finance for land purchase obtained from these surveys will not reflect changes in these sources until some time after the change has occurred.

The availability of published time-series data on institutional lending to the agricultural sector is summarized in Table 2.

2.2 The Flow of Loans

To understand the changes in the farm finance market it is also necessary to monitor the number and value of loans made and repaid during a specific period. The opening and closing balances of loans outstanding show only changes in net lending to the agricultural sector and give no idea of the level of activity in the market. For example, a slight increase in net lending during a period in which there was little new lending and even less repayment is indicative of a stagnant market. It is probable that the level of agricultural investment is low and that farm sales are slack. Thus two of the Government's stated objectives, increased farm development and the settlement of new farmers are not being met. On the other hand, a similar increase in net lending when the volumes of new lending and repayment are both high indicates that there is a dynamic rural credit market.

Table 2

Availability of Time Series Data on Institutional Lending
to the Agricultural Sector since 1964

<u>Institution</u>	<u>Years</u>
Rural Bank (S.A.C.)	1964-
Marginal Lands Board	1964-1982
Department of Maori Affairs	1964-
Development Finance Corporation	1973-
Trading Banks	1964-
Savings Banks	1974-
Trustee Savings Banks	1973-
Stock and Station Agencies	1964-
Life Offices	1968-
Trusts and Trustee Offices	No data series
Private Superannuation Schemes	No data series
Dairy Companies	No data series

The Government has specific objectives with regard to the provision of rural credit and implements policies to ensure that those objectives are met. It is therefore necessary for policy-makers to be aware of the effects of policy instruments, employed to regulate the economy as a whole, on the rural credit market. For example, the interest rate controls presently in force may alter the ability of the agricultural sector to compete for funds. When interest rates cannot be used as a mechanism for the allocation of funds, non-price rationing methods such as lending where security is best, and limits on the amounts advanced are emphasised. Although the excellent security provided by farmland may enhance the ability of the farmer to compete for funds, limitation of the size of individual loans may reduce his ability to acquire funds for land purchase, for which very large sums are required. Without statistics of the flow of loans to the agricultural sector, analysis of the effects of such policies on the sector must be limited.

Government policy has for many years favoured the sheep, beef and dairy industries to a greater extent than the arable sector because of the foreign exchange earning capacity of meat, wool and dairy products. Other reasons for the preferential treatment of these industries over the arable sector include the facts that they are bigger, have more potential for expansion and produce commodities in which New Zealand has a comparative advantage. In a market-orientated economy, intra-sectoral differences in credit availability may be regarded as reflections of the differing investment productivities of different enterprises, and therefore as inherent in the optimum allocation of funds. However, where Government intervention does occur, monitoring of intra-sectoral differences in the flow of loans is necessary to determine the success

of such intervention, and to ensure that those enterprises not given priority are not disadvantaged more than is deemed to be in the national interest.

Because of the extent of Government influence on the rural credit market, it is essential that accurate statistics which show the changes in relative institutional importance are available in order to ensure that policies, designed to increase the share of rural lending undertaken by particular institutions, are achieving the desired objectives. It would also be of use to determine the proportion of the lending undertaken by each institution which is directed to the agricultural sector.

Very few data are available on the number and value of loans made to the rural sector during any particular period. The Rural Bank reports the details of its new lending each year in its annual report to Parliament. At present the Rural Bank collects monthly and quarterly details of new loans but does not make these available.

Although all the returns submitted to the Reserve Bank by the organisations listed in Section 1.3 record the details necessary to determine the change in the balance of loans outstanding during the period covered by the return, the flow of loans can be determined only in the cases of trustee and private savings banks and insurance companies. These institutions alone record 'new investments' - for the remainder it is not possible to determine what proportion of new loans is reflected in the change in balance, since the value of loan repayments is not reported.

No data are presently available on private loans made through solicitors, or on the flow of loans from trustee companies or private superannuation schemes.

The Rural Bank Annual Report and trading bank and stock and station agency returns separate farming loans into 'sheep', 'dairy' and 'other', but at present there are no data available to enable a more detailed breakdown of lending by these institutions. Loans to farming from other sources cannot be classified according to the type of enterprise involved.

The deficiencies in the data which are available from institutional records cannot be compensated for by the information provided by existing farmer surveys, even for the types of enterprise covered by those surveys. Not only are the sources of finance not reported in sufficient detail at present, but as these surveys are designed to provide information on the financial situation of the established farmer, individuals who leave farming (and presumably pay back loans and mortgages) are not followed up, but are simply replaced with other farmers. In addition, as has been mentioned previously, new farmers are frequently excluded from surveys until their financial position has stabilized.

2.3 The Purpose of Loans

Government establishes the lending priorities for Government institutions supplying rural credit, according to its policy objectives. Two major current objectives are farm development and the settlement of young farmers who have demonstrated a high level of farming ability. Government has not attempted to direct the agricultural lending activities of private institutions. If the success of policies aimed, for example, at increasing farm development is to be gauged, it is necessary to know the total extent of loans made for that purpose. If a major increase in Government lending for development is countered to any extent by a decline in the volume of development loans made by the private sector, then the success of the policy may be overestimated if it is assumed that the increase in Government lending reflects total market trends.

An appropriate classification of loans according to purpose would have nine categories. These include buildings, construction, land development, plant and machinery, land settlement, additional land, irrigation, refinance and seasonal finance.

In the last few years considerable concern has been expressed over the rapid escalation in farm-land sale prices and there are those who contend that the expectation of rapidly rising land prices encourages farmers to farm for capital gain rather than for productive income. Excessive amounts of subsidized credit available for land purchase rather than for productive purposes such as development or seasonal finance, could facilitate rapid rates of increase in land prices.

It is therefore essential that Government be supplied with information on the purposes for which loans are made since it has the power to regulate the flow of funds from public sector lending institutions for particular purposes.

With the exception of the Rural Bank who lend for different purposes under separate lending policies and report the value of loans made under each policy, statistics on the purposes for which loans are made are also scarce. However, several of the participants in the farm finance market are known to lend exclusively, or almost exclusively, for one purpose. Stock and station agents lend primarily for seasonal finance requirements (but are worried about the extent to which this becomes hard-core debt), while solicitors lend primarily for land purchase and a very large proportion of loans made by life offices are also for this purpose. The Life Offices Association has no record of whether such loans are for amalgamation or the purchase of a complete new unit.

However, the banks, which together constitute 25 per cent of institutional lending to farmers, are not generally able to determine the number of loans made for each purpose during a particular period. It was suggested by several of those interviewed that farmers may well misrepresent the true purpose for which a loan is required if the chances of approval are higher for another.

Although there are no statistics available on the purpose for which private loans are made, it might be supposed that a large proportion of these are for land purchase or vendor mortgages when family farms pass from one generation to the next.

2.4 Terms, Interest Rates, and Security Requirements

The terms of loans have a major effect on the cash-flows of farmers, and on the confidence with which they are able to embark on long-term development programmes. They may, therefore, exert an influence on the level of total agricultural production. In inflationary times, private lenders are reluctant to commit funds for long periods and this creates a serious difficulty for the agricultural sector. The establishment of a farm mortgage market has been suggested (Lending to Farmers, 1972) as a means of eliminating this weakness. The necessity for such a market could be more thoroughly evaluated in the light of accurate statistics on loan terms and using additional farmer-derived information.

For policy purposes it would be advantageous to be able to review the terms of new loans in the light of the average life of loans recently paid off and of emerging trends in the average life of loans. In times of interest rate controls, lenders often prefer to reduce the term of loans thus increasing debt turnover. This may lead to difficulties for the agricultural sector if it is not possible to make long-term financing arrangements for longer projects and for land purchase. If statistics on the average life of loans paid off and the terms of new loans made for various purposes were available, it would be possible to determine whether shorter terms are likely to be adequate or whether there will be strong demand for refinance in the future.

At present, there are two schools of thought on the effect which interest rates have on farm investment. One suggests that farmers have a traditional reluctance to pay high interest rates while the other maintains that the cost of borrowing is not of particular concern to farmers since interest payments are tax deductible (Parliamentary Order Paper 22-4-82). The estimated cost of Rural Bank interest concessions alone was \$99 million in 1981/82 and trading banks, for a number of reasons including tradition, government priorities and the excellent security offered, also lend to farmers at lower than average interest rates. It is therefore important that the information required to explore the relationship between the cost of borrowing and the level of investment, be made available.

Several of the institutions involved in lending to agriculture have recently expressed concern that they may be contributing to the increase in farmland prices by offering credit for land purchase at a price lower than the opportunity cost of those funds. This artificially low interest rate enables the land purchaser to pay a higher price than he could afford if faced with market rates of interest. Thus the monitoring of interest rates on loans for farm purchase is particularly important in times of land price escalation.

The 1972 Committee of Inquiry into Lending to Farmers recommended that life insurance companies dispense with compulsory life insurance as additional security over borrowed funds, and take up State Advances Corporation mortgage guarantees as collateral security. In current times of high inflation when the investment value of life insurance is lowest and when farmers' cash-flow problems are likely to be greatest, this is particularly relevant. Consideration of ways in which adequate security can be provided for investors without involving farmers in additional unnecessary costs should be based on a sound knowledge of the security covering new loans, and therefore of the extent of the problem, if one exists.

The institutions approached were all prepared to supply details of the range of interest rates prevailing on farming loans although only the Rural Bank publishes these statistics. Within the ranges supplied, differences exist between individual members of such organisations as the Life Offices Association and many organisations varied the interest rate according to the personal standing of, and security offered by, the applicant.

Although the Law Society was unable to provide aggregate details of interest rates charged by solicitors, most of the larger legal firms tend to ensure that their interest rates are the same as those offered by other firms.

Details of the average terms of loans granted are in general available from institutions, but the average life of farming loans has not usually been determined except by the Rural Bank.

Although several institutions can supply details of their security requirements, they are usually the organisations who accept only security over land. Information on the other conditions which apply to loans and mortgages are not generally available.

2.5 The Availability of Finance

For those concerned with agricultural policy, the question of whether farmers are able to obtain sufficient finance is obviously most important. If this finance is not available it is also important that any structural gaps i.e. shortages of finance for particular purposes or terms, be identified. Only where statistics on the availability of finance are available can Government decide whether or not policies designed to increase farm investment, or to cut back on the availability of finance for land purchase etc. are successful.

The position of such structural gaps will determine the effects, and the timing of the effects, which restricted rural credit will have on total agricultural production. Many of the effects of a shortage of seasonal finance may become obvious in a relatively short time as the production response to decreased animal health expenditure or enforced sales of breeding stock are rapid. A decline in expenditure on maintenance fertilizer or on maintenance of farm improvements may become

obvious more gradually. A shortage of funds for new medium or long term development projects already underway may mean that funds already spent, have been wasted.

The most recent "Farmer Intentions and Opinions Survey" (Pryde and McCartin, 1983) is the only published source of information relating to whether or not farmers' credit needs are being met. Other farmer surveys elicit only quantitative data about the physical and financial performances of properties surveyed.

2.6 Development Expenditure and Capital Structure

In order to be able to determine the effect of restricted credit for development and capital expenditure on farm production it would be necessary to establish the relative importance of development out of savings and development out of borrowing for the various types of agricultural enterprises. This information would also facilitate the investigation of the relationship between economic changes in agriculture and the reliance of farmers on external sources of credit.

In order to be able to predict the changes in future production which are the likely consequences of current investment, capital and development expenditure must be split into several main categories. The Department of Statistics Classification involves six categories: Buildings, Construction, Land Development, Transport Vehicles, Tractors and Farm Machinery and Working Animals. A more complete classification would include categories for land purchase and irrigation.

In addition, details of the capital structure of farms are also necessary.

The relationship of farm debt to farm income is important for policy purposes. In periods when farm debt is growing more rapidly than farm income, the ability of the farmer to pay interest out of gross income and to meet principal repayments out of after-tax income may be significantly reduced. In consideration of the extent of financial assistance which should be given to farmers in times of low income, changes in the income-debt ratio should not, therefore, be ignored. Rather, such changes must be recognised and their underlying causes identified. If low incomes are the result of a structural downturn in the market, the provision of income subsidies may encourage farmers to maintain high levels of debt, not commensurate with the real earning capacity of the sector, and thereby postponing structural adjustments in the economy.

In determining the sector's ability to compete for funds in excess of those channelled into agriculture as a result of Government policy decisions, the ratio of total farmer indebtedness to total farm assets also provides valuable insight. Should the equity percentage decrease greatly the New Zealand farmer's ability to compete for credit, and thus his risk-bearing ability may decline, and further intervention may be required if investment levels are to be maintained.

With the exception of the Wheat Growers' Survey, which collects data on capital expenditure but excludes land development, none of the current regular surveys obtains data on capital and development expenditure, although the M.A.F. Rural Credit surveys which have been discontinued did so. Although the extent of capital and development expenditure is elicited by the annual Census of Farms conducted by the Department of Statistics, it seems unlikely that this figure could be obtained accurately from a postal survey as is used for the Census. Many farmers would not keep separate records of development expenditure since it is frequently included with working expenses in taxation accounts, which are the only long-term financial records kept by a large number of farmers.

3 SUBJECTIVE DATA REQUIREMENTS AND AVAILABILITY

3.1 State of Market Reports

A regularly revised picture of the 'state of the rural credit market', and the way in which the market is responding to changes in the economic and physical environments in which farming is carried out, would assist policy-makers at both national and institutional levels in their planning activities. This would be particularly useful in determining for example, the extent of drought relief finance which might be necessary in a particular region. Such reports would also provide advance information on whether or not farmers' credit needs are being met and on where any structural gaps in the market appear to be developing.

At present, although the Rural Bank, and quite possibly other organisations do request informal 'state of the market' impressions from senior regional staff from time to time there is no regular standard collection of these which might allow the aggregation of a number of impressions to formulate reliable regional and national figures.

3.2 Additional Subjective Data Requirements

Suppliers of rural credit would be better able to service the agricultural sector if information were available on which elements farmers believe are most important when they are attempting to obtain finance (e.g. interest rate, term, budgetary advice from lenders etc). This information could also be used to resolve the argument concerning farmers' attitudes to interest rates. In addition, suppliers would be assisted in their planning by a forward estimate of farmers' borrowing intentions for the forthcoming season.

The only subjective data requirement which is presently being met to any extent is the estimated borrowing intended by farmers for the forthcoming season. This was obtained for the first time in the "Survey of New Zealand Farmer Intentions and Opinions, September-November 1981", (Pryde, 1982) and will probably be included in future surveys. However, estimates made six months in advance are very likely to change with changing climatic and economic circumstances and regular revision may be necessary. With time it will be possible to determine the accuracy of such advance estimates and the reliance which can be placed on them.

With the exception of some unpublished research conducted in several regions by the University of Waikato and a major stock firm, farmers are not asked formally which elements they regard as important when assessing alternative sources of finance.

4 FREQUENCY OF DATA COLLECTION

The process of decision-making associated with the formulation of agricultural policy is continuous and requires constant changes in the light of new developments. Consequently much of the data required by Government for evaluation of rural lending policy, and by financial institutions for forward planning, should be available on a quarterly basis. These include details of stocks, flows and purposes of loans, interest rates and the availability of finance. Quarterly revisions of farmers' borrowing intentions should also be valuable. 'State of the market' reports, to fulfil their purpose should be available on a monthly basis. The remaining data on development and capital structure, security requirements for loans and the important elements of credit sources need to be supplied on an annual basis only. However, the frequency with which data could feasibly be collected depends on the set of data required and the methods of collection used.

A summary of the data needed to monitor rural finance and the institutions which believe such data would be of use to them, are listed in Table 3. A summary of the availability of these data is given in Table 4. It can be seen that comparatively few of the data requirements are presently being met. Most of the supply-side data requirements are met by some of those institutions and organisations involved in farm financing. However, as the legal sector and institutions such as building societies are not required to submit returns to the Reserve Bank, it is not possible to build a complete picture. In addition the data that can be obtained from those returns which are filed seldom fulfil all the requirements identified. Demand side data, collected by farm surveys do not entirely compensate for the deficiencies in the supply-side data since the former do not cover the whole of the farming sector.

Although the most detailed data presently available on farm financing in New Zealand relate to the stock of loans outstanding and to the flow of loans to the farming sector, the fact that these data are not available for all lenders, is probably the most serious of the data deficiencies which exist. These data are most important for the evaluation of policies designed to increase farm investment by increasing the flow of funds.

For researchers attempting to devise methods of improving the coverage of supply-side data the greatest problem will be the number of legal firms, which deal with a large proportion of farm loans but whose financing activities are particularly difficult to monitor. If an improvement in the demand-side data is the chosen means of monitoring rural finance then the greatest problem will be timeliness and the frequency of data collection. Farmer surveys are time-consuming to conduct and delays are inevitable since farm accounts are frequently not available for some months after the end of the season. Irrespective of whether such surveys are carried out by means of personal interview or postal questionnaire it would not be practical to conduct them more frequently than once a year. The information derived in this way would be less useful for planning and policy purposes than quarterly or monthly data.

The deficiencies in the data presently available suggest that if rural finance monitoring is to be improved, additional data will be required. The means by which this is to be obtained must be decided on the basis of cost, information quality and timeliness.

Table 3

Data Requirements by Institution

Institution Data	M.A.F.	Reserve Bank	Rural Bank	Trading Banks Savings Banks	Stock and Station Firms	Finance Houses	Treasury	Law Society
Total Loans Outstanding	*	*	*	*	*		*	* (From legal Sector Only)
Flows of Loans	*	*	*	*	*		*	
Purpose of Loans	*	*	*	*			*	
Terms, interest rates and Security Requirements		*	*	*			*	
Availability of Finance			*			*	*	
Devt. Exp. & Capital Structure	*						*	
State of the Market			*	*	*		*	
Farmers Borrowing Intentions			*	*	*	*	*	
Elements important in a credit source				*	*		*	

Note: The institutions with whom the issue was discussed but which are not included in Table 3 did not feel that they required data of these types. In general these were institutions which lend the funds they have available to the borrower with best personal standing and security, without particular concern for the sector to which funds are allocated.

Table 4
Summary of Data Requirements and Availability

Data Requirements	Data Availability
1. Total loans outstanding	Available from a number of institutions but not from the legal sector and smaller institutions. These data are obtained by all regular farmer surveys but these surveys do not cover the whole agricultural sector.
2. Flow of loans	Presently available only from private savings banks, trustee savings banks, life insurance coys and Govt institutions.
3. Purpose of loans	Classification available only from Rural Bank although some institutions lend almost exclusively for one purpose.
4. Terms	While details of terms are generally available from institutions on request, details of the average life of loans are less readily available.
5. Interest Rates	Available on request from all the institutions listed.
6. Security Requirements	Generally available on request only from institutions whose requirement for security over land is not flexible.
7. Availability of Finance	Data available only from "Survey of New Zealand Farmers' Opinions and Intentions"
8. Development & Capital Expenditure	Available from Department of Statistics annual "Census of Farms" although there must be doubt about the reliability of these data. The "Wheat Growers' Survey" collects details of capital expenditure but does not include land development

Data Requirements	Data Availability
9. Capital Structure	Details obtained by all four regular surveys of farming enterprises but these do not cover the whole sector.
10. State of the Market Reports	Not regularly compiled.
11. Other Subjective Data	Farmers' Borrowing intentions now included in the "Farmers Opinion Survey" - no other subjective information obtained on a regular basis.

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