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Rural Finance

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RURAL FINANCE

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1. INTRODUCTION

Rural financial intermediation faces several challenges, including, shortcomings and systemic weaknesses of rural financial markets, urban biased policies and poorly designed interventions not based on the realities of rural markets. Against this background the purpose of this chapter is to provide an overview of some concepts of financial theory, the history of conventional approaches in rural financial markets, informal finance, the role of savings mobilisation and a discussion on the new approach to rural financial markets. The aim is to present the building blocks essential to the understanding of rural financial markets. The roles of information, transaction costs and measurement of success are emphasised.

2. FINANCIAL THEORY AND FINANCIAL MARKETS

2.1 INTRODUCTION

Information plays a central role in financial markets. Information, risk and transaction costs are inseparable elements in financial markets. Indeed, the level of transaction costs is the determinant of the existence of a market. The key conceptual elements with which to analyse financial transactions are coincidental with those guiding the analysis of institutions. The New Institutional Economics approach which has transaction costs as a point of departure and acknowledges imperfect information and bounded rationality will be applied in the first section. This approach to economics challenges the dominant role ascribed to the market in the past ten years (and rejects certain very restrictive assumptions in the notion of the market that are central to the neo-classical paradigm). It argues that, given the circumstances, neither the state nor the market is invariably the best way in which to organise the provision of goods and services (Harriss *et al*, 1995). This approach is echoed in a World Development Report (World Bank, 1997) entitled "The state in a changing world" where the concept of "the smart state" is mooted.

The first section will address financial markets and certain theoretic considerations will be introduced. The central role of transaction costs and information will be studied, including concepts like asymmetric information, adverse selection and moral hazard. The relationship between the different actors in financial markets will be explained with the principal-agent approach. This approach concentrates more on the supply side of these markets. On the demand side, the behaviour of firms[2] will be

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[2] The term *firm* is used in a general context throughout this chapter. The majority of firms will lie somewhere between the two extreme cases, i.e., the conventional firm and the household firm. The conventional firm indicates the enterprise in a pure form, while the household firm combines business and household decisions. Work by Aryeetey (1991) showed that financial transactions and decisions are similar in these two versions of the firm. The term firm used in this study will indicate an entity lying somewhere on the continuum between a conventional and a household firm.

highlighted by introducing the pecking order approach. These approaches are introduced to provide a theoretical understanding of what we find in practice.

2.2 FINANCE AND FINANCIAL MARKETS: THEORETICAL BASIS

The aim of the discussion in this section is to synthesise and contextualise the uses of concepts like, *inter alia*, rural financial markets, and informal and formal financial intermediaries. It will further provide a basis for simplifying financial transactions to the actions of intermediaries, borrowers, lenders and savers. The ultimate function of financial markets is to increase the financial resources available to the economy and to enable a more efficient use of those resources. This indicates that financial markets facilitate financial intermediation and management in order to stimulate and accelerate the process of economic growth (Popiel, 1990). Economic theory, until recently, did not link financial services adequately to long term growth[3]. Schumpeter (quoted by World Bank, 1992) argued, early in the century, that financial intermediaries are essential for economic growth. Schumpeter published his theory of economic development in 1911 (Dorfman, 1991), changing the theory of economic development and capital accumulation away from straightforward increases in the stock of capital to concentrating on innovation as the engine of growth. He added one important component, that of investments in developing and exploiting innovation being largely financed by an expansion of bank credit. This highlighted the role of banks, and implicitly that of financial markets, in the process of economic growth.

Although this emphasis on the role of finance in economic development is ascribed to Schumpeter earlier economists have also discussed the importance of financial institutions. Adam Smith (according to Hankel, 1990) dedicated attention to the banks in England and Scotland in his book *Wealth of Nations*. As Adam Smith stated it himself, "nothing functions without money". Thus economic history has taken up the subject of the role of money and financial institutions in the development process, albeit without any systematic theory.

Clarity on the role of finance in economic development was enhanced by studies of Edward Shaw and Roland McKinnon who challenged the Keynesian growth models that ignored finance (Fry, 1988). These two economists coined the terms "financial deepening" and "financial repression". McKinnon (1973) argued that financial repression fosters dualism in developing countries and is responsible for greater income inequality and less than optimal investment efficiency. McKinnon and Shaw produced a theoretical basis for financial development that has been formalised and extended by others (Fry, 1988). The policy implications of these models are that economic growth can be increased by abolishing institutional interest rate ceilings and other restrictions on the functioning of financial markets to ensure that the financial system operates competitively under conditions of free entry.

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[3] Chandavarkar (1992) is of the opinion that we are still unclear on how to assess the true significance of finance. Questions that still elude us are: is finance a follower of the real sector, or is it a sector in its own right? What are the possible interrelationships between finance and development? Is financial liberalisation an unambiguous policy recipe? Chandarvarkar concludes his article by stating that there still is a rich agenda for research that needs attention.

Two recent developments in theoretical literature are of importance to answering the question on the contribution of financial services to economic growth. The work of Levine (1996) and King and Levine (1993) show conclusively that finance makes a substantial contribution to economic growth. They argue the case for the contribution of financial intermediation and substantiate it with empirical evidence. These authors also refer to the strategic role of finance in the new endogenous theories of economic growth.

Another concept that needs further clarification is that of rural financial markets. By including the spatial concept in this term, the transactions by financial intermediaries in rural areas are highlighted. The financial market still refers to the broader concept outlined earlier. This emphasis on rural is not specifically attended to in the literature (see Von Pischke, 1991; Gonzalez-Vega, 1990). Urban bias, indicating the concentration of formal financial activities in urban areas, may be a contributing factor to this emphasis on rural. For the purposes of this study rural financial markets incorporate those financial activities in financial markets where people in rural areas are the clients of the intermediaries. It follows that the concept of the frontier (Von Pischke, 1991) also applies in rural financial markets. However, the spatial concept of rural does not provide a clear definition of rural financial markets. It is true that many intermediaries, on both sides of the frontier, can act in rural and urban markets. Gonzalez-Vega (1990) argues that markets (and financial markets) in developing countries are not characterised by a single, large, integrated market, but rather by a collection of smaller, fragmented markets. Each of these segments, semi-isolated regional and local markets, faces constraints on efficient resource allocation and productivity growth. Thus, in developing countries, there are numerous local markets for most goods and services and their comparative size depends on the level of transaction costs in each market (Yotopoulous & Floro, 1992; Gonzalez-Vega, 1990).

The extent of fragmentation is thus a consequence of the magnitude of actual and potential transaction costs. High transaction costs are, *inter alia*, caused by poor infrastructure and communication services in remote rural areas. It also can result from the absence of a legal framework that can enforce contracts. The land tenure system in a remote rural area may offer no opportunity to serve as collateral and that will also increase transaction costs. Artificial market fragmentation also contributes to high transaction costs. Artificial fragmentation results from government actions, which aim to address perceived market failures[4] with policy instruments. Often the wrong instrument is chosen and additional distortions arise adding to the already high transaction costs that exist in a specific market. The concept "rural financial markets" conveys a bundle of possible causes, mainly based on level of transaction costs, why the clients in those markets cannot freely access financial services like their counterparts in more developed markets, e.g. in the urban setting. Yadav *et al* (1992)

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[4] The more common cases of market failure such as market power (monopoly), externalities, failure of collective action, etc. are not the typical failures that lead to market intervention in financial markets. Just because some constituency or group does not receive credit does not necessarily constitute market failure. The principal defining feature of market failure in financial markets is of course asymmetric information. Is the fact that someone who wants a loan but is unable to get one, evidence of market failure? No, only if that person is creditworthy, will repay the loan (no contract enforcement problems) and cover whatever costs the lender has to incur to overcome the information problem. There are many people who are not creditworthy, whose absence from credit markets does not constitute market failure. To the extent that there are creditworthy people who are rationed out of credit markets when they can and would repay their obligations, but it is to costly for lenders to find this out, then we have market failure.

see formal as well as informal intermediaries as segments of the rural financial market, and argue fragmentation in this way.

For the purposes of this chapter we follow the approach of Von Pischke (1991) and Meyer *et al* (1992). They prefer to use the all-inclusive term "financial markets". They differentiate between intermediaries who have contact only with other intermediaries, and those who deal with the final clients' i.e., the borrowers and savers. Intermediaries that only have contact with other intermediaries will not feature in this book except where they are an integral part of the discussion. We differentiate between the two sides of a frontier. The frontier differentiates between the formal and the informal sections of the financial market. "Inside the financial frontier, formal intermediaries such as commercial banks, stock markets, credit unions, consumer finance corporations, investment banks and insurance companies make up the financial sector. They operate under government charters, are subject to government supervision and reporting requirements, and are restricted by usury laws and by limitations on the types of services they may offer" (Von Pischke, 1991:1). The financial intermediaries inside this frontier tend to be formally organised, structured and hierarchical, are perceived to be impersonal and offer a great variety of services. Further characteristics of transactions inside the frontier are the technologically advanced level of executing financial transactions and the wide availability of credit.

Financial transactions beyond the frontier of formal finance are personalised and small and often involve simultaneous exchanges of cash and goods and services (Von Pischke, 1991). The majority of participants outside the frontier are small-scale farmers and businesses and members of low-income households. Savings beyond the frontier are not deposited in modern financial institutions, but held in cash or often converted into assets such as livestock and business inventory. These savings can be converted into cash relatively quickly and easily. Another method of holding savings beyond the frontier is in the form of loans to friends and relatives under terms and conditions that include reciprocal assistance upon demand. Credit transactions beyond the frontier are usually face to face dealings between borrower and lender. These transactions are mostly short-term and involve small amounts. They are regulated by custom, the negotiation skills of the parties and competition among borrowers and lenders. Credit beyond the frontier can however be scarce and expensive and is often closely related to social ties, carrying no or low interest.

In addition to the formal and informal sectors Meyer *et al* (1992) mention a third dimension. i.e., the semi-formal market. These markets usually fall outside the purview of the formal banking authorities. They mostly function in the form of self-help groups and are often owned by their members. The semi-formal sector is also characterised by a high involvement of non-government organisations (NGOs) and community based organisations (CBOs). Table 1.1 provides an example of the components of the financial sector, as they will be used in this study.

Table 2.1: Components of the Financial Sector		
Formal (within the frontier)	**Semi-formal**	**Informal (outside the frontier)**
Regional and National Central Banks, Treasury and other regulatory bodies Financial Intermediaries ▪ Commercial Banks ▪ Development Banks ▪ Savings Banks ▪ Postal Savings ▪ Co-operative Banks ▪ Unit Rural Banks ▪ Finance Corporations Capital Markets	Agricultural Co-ops. Credit Unions Banques Populaires Integrated Development Projects Village Banks Self-help Groups Savings Clubs	Communal Clubs Mutual Aid Associations Rotating Savings and Credit Associations (ROSCAs) Moneylenders Money keepers/mobile bankers Input suppliers Store owners/merchants Trader-lenders Farmer-lenders Friends Neighbours Relatives/Family
Note: Based on surveys in Africa; Source: Meyer *et al* (1992).		

In the 1960s, and especially in developing countries, financial markets were essentially seen as tools to tap funds for government use, or to use to direct credit to priority sectors. However, this view changed, mostly based on the impact past policies had on the allocative efficiency of financial markets. These markets are now increasingly viewed as important in their own right for the mobilisation of resources, for the efficient allocation of credit, and for the pooling, pricing and trading of risk (Roe, 1990). Risk as such is a central ingredient of financial markets due to the time element involved in financial market transactions[5]. This brings us to the concepts of risk and transaction costs, which play an important role in financial intermediation.

2.2.1 Transaction costs

Transaction costs are crucial when explaining the role of finance. In financial markets transaction costs arise from the contracts between actors in these markets. In economic terms, transaction costs arise from the transfer of ownership (Niehans, 1987). Mainstream economists neglected the theory of transaction costs until after the Second World War. In the 1960s thinking on transaction costs was revived with the realisation that market failures had transaction cost origins (Williamson, 1985). Economists from both the neo-classical and the new institutional school started to publish on this phenomenon (Griffin, 1991). The neo-classical school mainly sees transaction costs within the context of a market failure, whereas the new institutional economists are inclined to see transaction costs as an integral part of the market (Chaves, 1994).

[5] Von Pischke remarked at a seminar that finance is secondary to risk in financial markets. Financial markets in essence are about managing risk (1993).

Coase, in 1932[6], posed the issue of economic organisation in comparative institutional terms. He argued that firms often supplant markets as the principle means of economic organisation and that transaction costs would be the decisive variable in deciding whether transactions will be organised in a firm (hierarchically) or between autonomous firms (across a market). In order to be able to take such a decision, it should be possible to determine transaction costs[7]. Kenneth Arrow (1951) observed that "market failure is not absolute, it is better to consider a broader category, that of transaction costs, which in general impede and in particular cases block the formation of markets ... (transaction costs are) ... the costs of running the economic system".

The post-war market failure literature served further to highlight the importance of information, its distribution amongst economic agents and the problems with assimilating or obtaining information (Williamson, 1985). Arrow (1951) observed that the needs for equilibrium and disequilibrium economics differ considerably. Traditional economics emphasises the price system as source of information, which is correct should we be at equilibrium. However, in conditions of disequilibrium, a premium is paid for acquiring information from sources other than prices and quantities.

Let's turn to transaction costs in financial markets. In the earlier discussion on rural financial markets a few causes of high transaction costs were identified. What then is the result of high transaction costs? It follows that the higher the transaction costs the lower the volume of transactions in a given market. In a market with extremely high transaction costs, no exchange could take place and one could say that the market therefore does not exist (Niehans, 1987). Transaction costs are the key to understanding of intermediation and of the structure of markets[8].

Transaction costs are defined by Meyer and Cuevas (1990) as the cost of transferring resources between markets or between participants in the same market. In the finance field transaction costs refer to the resources required to transfer (lend, borrow or save) one monetary unit of currency from a saver to a borrower, and recover that unit after a certain time period. Transaction costs include non-financial costs. Unlike transactions in some other markets (Meyer & Cuevas, 1990) financial transactions

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[6] Coase (1992) in his acceptance speech of the Alfred Nobel Memorial Prize in Economic Sciences said the following: "I found the answer by the summer of 1932. It was to realise that there were costs of using the pricing mechanism. What are the prices has to be discovered. There are negotiations to be undertaken, contracts to be drawn up, inspections to be done, arrangements to be made, and so on. These costs have become known as transaction costs. Their existence implies that methods of co-ordination alternative to the market, which are themselves costly and in various ways imperfect may nonetheless be preferable to relying on the pricing mechanism, the only method of co-ordination normally analysed by economists. It was the avoidance of the cost of carrying out transactions that could explain the existence of the firm in which the allocation of factors came about as a result of administrative decisions."

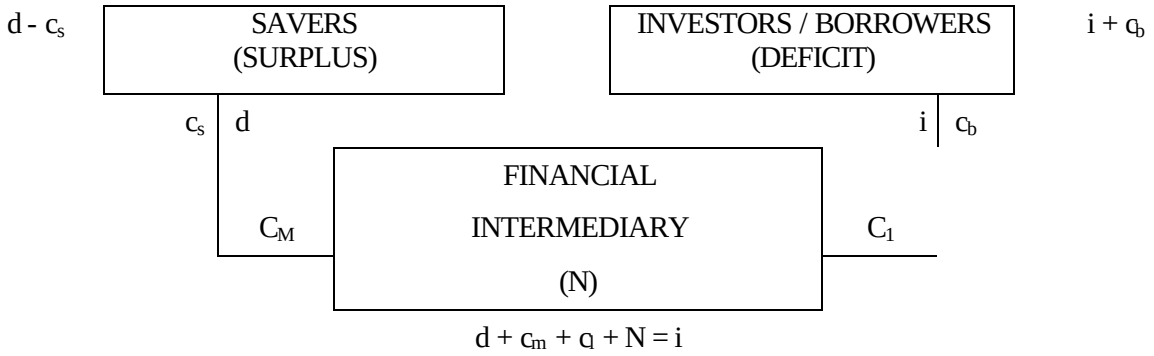
[7] On the issue of the estimation of transaction costs in economic analysis Griffin (1991) remarked: "Because a proper analysis incorporating transaction costs has never been performed to investigate the global efficiency of a prospective institution, the applicability of such terms is highly questionable in all but conceptual work." This is a view on an aggregated approach to assessing transaction costs. Examples do exist however where transaction costs were assessed at the micro-economic level (Adams & Nehman, 1979).

[8] Benston and Smith (1976) argue that transaction costs are the *"raison d'être"* of financial intermediaries.

always involve some risk because of the time lapse before the contract is completed. Financial transaction costs include non-financial costs for all participants in the market, whether they be depositors, borrowers or financial intermediaries. The level and distribution of these costs amongst the participants in a market are influenced by changes in technology, changes in consumer preferences, financial regulations, and ability to fulfil collateral requirements, enforceability of contracts and by the internal efficiencies of financial institutions. Meyer and Cuevas (1990) created a simple framework with which to conceptualise these costs (see figure 2.1).

In the figure d represents the deposit interest paid by the financial intermediary to the depositor, i represents the lending rate charged to borrowers. The costs incurred by depositors to obtain information on the financial intermediary, to visit the financial intermediary and to compare intermediaries, and finally to perform account transactions (e.g. deposits and withdrawals) are represented by c_s. It follows that the net return to depositors should be equal to $d - c_s$. The cost of borrowers in terms of negotiation, visits to the intermediaries and in general all costs to obtain loans are represented by c_b. Meyer and Cuevas (1990) make the observation that for both borrowers and depositors, opportunity costs of time could contribute significantly to c_s and c_b.

Figure 2.1: Financial Transaction Costs (Meyer & Cuevas, 1990)



Non-financial costs incurred by financial intermediaries may be grouped as those costs incurred to mobilise deposits, c_m, and costs incurred in the process of lending, c_l. Costs to mobilise deposits can include all costs like labour, capital and materials used anywhere in the process of handling deposits, e.g. the cost of construction of a specific branch building of a bank to serve as a depository branch would be accredited to c_m. Similarly, lending costs refer to costs associated with loan processing, disbursement, monitoring, recovery, obtaining information on potential clients and assessing the validity of collateral offered. The interest rate, i, charged on loans, represents the income earned by the financial intermediary to cover all costs associated with the activities of the intermediary, i.e. interest rate paid on deposits, costs of mobilising funds, costs of lending and a net surplus (N) or profit (or net shortage or loss). In addition to the above costs, the element of risk of default, or the risk of granting the wrong borrower (high potential to default, or someone that will invest in risky ventures) a loan, as embodied in default, also increases the mentioned cost elements. It is difficult to estimate the potential of default, especially at a first contact between an intermediary and a client, and financial intermediaries follow

diverse and usually undisclosed procedures to account for it. These procedures complicate the estimation of transaction costs of financial intermediaries.

The graphical representation and explanation (in figure 2.1) of intermediation costs (transaction costs) serves three purposes. It indicates clearly that all parties to financial transactions incur transaction costs; it shows that transaction costs comprise far more than administrative costs, and lastly it highlights the impact of uncertainty on the level of transaction costs, mostly on that of the financial intermediary.

2.2.2 Asymmetric information, adverse selection and moral hazard

In the preceding discussion a lot of reference has been made to information and uncertainty or risk[9]. Llanto (1989) argues that loan transactions are more complicated than transactions in most other markets. In a goods market the task and objectives are relatively simple: sell the goods and the transaction is terminated on receipt of payment. In a financial market, a loan transaction requires far more. Information about the abilities and character of the borrower is needed. Neither the viability of the intended project, nor the creditworthiness and the management abilities of the borrower are known to the financial intermediary. The borrower on the other hand, has far more information on his intended action and creditworthiness than the lender. This is the situation of **asymmetric information** (Stiglitz & Weiss, 1981).

Economic theory, in stating conditions for Pareto-optimality, implicitly (or explicitly) assumes that all economic agents have the same information about economic variables. Postlewaite (1987) remarks that this does not exclude uncertainty, as the conditions for Pareto-optimality will also hold, should all agents have the same degree of uncertainty. If the assumption of symmetric information is violated, the outcome could not necessarily be regarded as Pareto efficient. In this situation we are confronted with asymmetric information and varying degrees of uncertainty, depending on the quality and level of information on which agents act in the market. The concept of asymmetric information has provided the economist with new insight into the reasons for market failures (Postlewaite, 1987).

Without the information on prospective borrowers' ability to invest loaned funds, or their creditworthiness, a situation may arise where a lender may choose a risky borrower. Due to this lack of information the particular characteristics of borrowers are unknown to lenders. This is referred to as **adverse selection**. The now classical explanation of this phenomenon was in George Akerlof's paper, *The market for lemons* (1970). Akerlof used the market for used cars as example. He explained a situation where the sellers of cars have more information on the quality of the car than the buyers. This leads to the problem of adverse selection based on the assessment (information) of buyers of the cars for sale. Stiglitz and Weiss (1981) further applied this idea to explain credit rationing. In their argument they considered the banks as the uninformed buyers in Akerlof's example, and the borrowers assume the role of the informed sellers. Siamwalla *et al* (1990) argue that the adverse selection example of

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[9] Numerous definitions exist for risk and uncertainty, the most prevalent being that risk involves the possibility of alternative outcomes with the probability for each outcome known while in the case of uncertainty the probability of different outcomes is not known. In this study risk and uncertainty will be used interchangeably depicting uncertainty of outcome.

Stiglitz and Weiss may be true for formal financial intermediaries in rural areas, but it may be less applicable to the informal sector (argued on the basis of surveys done in Thailand). The information problem is mostly less of a constraint to informal lenders as they operate in specific villages or areas and have more information on their clients. In their situation a model that assumes near perfect information for the selection of clients may be more appropriate. We will return to this argument in a later section.

Another consequence of asymmetric information is the problem of **moral hazard**. Moral hazard may be defined as actions of economic agents in maximising their own utility to the detriment of others. Moral hazard therefore refers to the possibility that individuals who are in debt will change the effort that they put into making the project successful and/or the type of project they undertake, for example by changing the riskiness of the project (Besley, 1992). Stiglitz and Weiss (1981) argue that interest rate increases lead borrowers to opt for more risky projects and this results in lenders having riskier loan portfolios. Higher interest rates attract riskier borrowers that may lead to increased default due to moral hazard. The reaction from lenders is quite often to ration credit rather than to increase interest rates.

These circumstances where a borrower acts in a situation of moral hazard more often arise from changes in circumstances after the initial agreement was reached. In many instances moral hazard appears before the contract, especially where the system provides disincentives to repay, where contracts are not enforced and where poor monitoring takes place. The borrower with self maximising intentions will therefore read this situation as one in which wilful default will not be punished, hence the actions of the borrower.

2.2.3 Principal-agent relationships

The discussed theoretic considerations now lead us to complete the picture by attending to the principal agent approach. The problems of asymmetric information, uncertainty, adverse selection and moral hazard all contribute to the principal-agent problem. Stiglitz (1987) describes the basis as follows: "(The principal-agent problem) … is concerned with how one individual, the principal (say an employer), can design a compensation system (a contract) which motivates another individual, (his agent - say the employee), to act in the principal's interests." The principal-agent problem arises when there is imperfect information. Thus, due to asymmetric information, the principal does not know whether the agent undertook the action the principal himself would have undertaken, in the way the principal would have executed the action. The principal-agent problem focuses specifically on situations where an individual's actions can neither be observed nor perfectly inferred on the bias of observable variables. Numerous examples exist of principal-agent situations. The areas of credit and insurance are mostly used to illustrate this concept. In credit relationships, one individual gives another some resource (money) in return for a promise to return that money at a later date. As long as there is a probability of default, which can be affected by the actions of the borrower, there is a potential moral hazard problem and it follows a principal-agent problem (provided that the lender cannot perfectly monitor the actions of the borrower, which is usually the case).

2.2.4 Pecking order theory

The above mentioned concepts concentrate on the relationship between the lender and borrower, but mostly with emphasis on the lender and the transaction costs of the lender. However, the level of transaction costs of the lender will directly influence the borrower, as the lender will try to recoup his costs through the interest rate levelled. The borrower on the other hand will also try to decrease his/her own transaction costs. Furthermore, the borrower will, based on perceived transaction costs associated with a specific lender, choose among sources of finance.

Myers (1984) contrasts two views on portfolio selection (or capital structure): the static trade-off hypothesis and the pecking order approach. According to the static trade-off hypothesis, a firm will set a target debt-to-value ratio and then gradually advance towards the target. The optimal debt ratio is determined in turn by the costs and benefits of borrowing. The firm is supposed to substitute debt for equity, or equity for debt, until the value of the firm is maximised (Cuevas, 1992). According to the pecking order theory firms have a preference for internal finance and follow the "safety first" principle (Baydas, 1993). The first source of financing a firm will choose according to the pecking order theory is its own cash (in the form of savings or retained earnings). If external finance is required the firm will first choose those financing options that will exert the least outside influence on decision making in the firm and ownership of the firm (Myers, 1984). Thus equity financing will be last resort borrowing. Myers (1984) also shows that predictions based on asymmetric information are consistent with the central issues of the pecking order theory. Here, the manager's better knowledge of the firm compared with that of potential outside investors, which results in different valuations of the firm's stock, constitutes the information asymmetry. The role asymmetric information plays in the pecking order theory is consistent with the emphasis in this study on the impact of information availability on transaction costs. For this reason this approach, rather than the static trade-off hypothesis, will be used in this study.

Cuevas (1992) argues that the concept of hierarchical preference between external and own financing bridges an important gap usually present in financial market research. It follows from the pecking order theory that profitable, efficient firms will borrow relatively less than other firms (less profitable and efficient), since they will finance their investment expenditures with retained earnings. This also supports the observation of risk aversiveness of rural households and their concomitant financing profile. Numerous surveys of rural financial markets showed that most firms finance their investments and activities with own funds (Adams & Fitchett, 1992; Coetzee, 1988). If outside sources are used, the first choice is from informal financial intermediaries, with formal finance secondary. It follows that a generalisation of the pecking order theory indicates that those firms seeking outside finance, and from formal sources, may be the more risky clients (less efficient firms) and thus we have a situation of adverse selection.

2.3 DISCUSSION OF THE THEORETICAL CONCEPTS

The central theme of the theoretical discussion is the important role that transaction costs play in rural financial markets. Various economists, notably Stiglitz and Weiss

(1981[10]), have modelled most of the discussions of asymmetric information, adverse selection and moral hazard. The implications of these models were that due to the problems of asymmetric information and the resultant adverse selection, some form of credit rationing is normal behaviour for lenders in rural financial markets. Credit rationing can come in two forms, i.e., rationing in the form of providing less credit to a borrower than was applied for and providing credit to a smaller number of borrowers. As asymmetric information leads to higher transaction costs, fewer transactions are the result. Implied is also a situation of moral hazard, as higher transaction costs result in higher interest rates. At higher interest rates the more daring borrowers are willing to take up loans. This means that the risk aversive clients (and mostly more efficient firms - *a la* pecking order theory) will not take up loans. This creates the situation, according to Stiglitz's models, that it makes sense to subsidise interest rates, as the less risky borrowers will then enter the market.

Siamwalla *et al* (1990) take a different viewpoint. They argue that in the case of the village level moneylender one can assume in the majority of transactions a situation of near perfect information, especially compared to the situation of the formal intermediary where asymmetric information applies. Why near perfect information? They argue that the village level moneylender is such an integral part of the village and its social structure that it follows that he/she will have more information on clients regarding production activities, character, other sources of income and creditworthiness than outside intermediaries. In these situations it follows that less chance for adverse selection and moral hazard exists. Udry (1990) confirms this view in an article that addresses the issue of incomplete markets and imperfect information in the context of credit markets in rural Northern Nigeria. He found that in these rural villages credit transactions take advantage of the free flow of information within the communities. Information asymmetries between borrower and lender were perceived to be unimportant, and their institutional consequences - the use of collateral and interlinked contracts - are absent. Credit transactions play a direct role in risk pooling among households through the use of contracts in which the repayment owed by the borrower depends on the realisation of random production shocks by both the borrower and the lender.

Until recently, Stiglitz's models were of a very static nature. They did not allow for the situation in which lenders increased their level of information on borrowers through repeated contacts, thus a situation of decreasing asymmetric information. However, Hoff and Stiglitz (1992), started paving the way to more dynamic modelling and accepting the fragmentation of rural credit markets between informal and formal lenders based on the difference in transaction costs based on the different levels of information available to these intermediaries. The basic premise of asymmetric information does not always hold true. Siamwalla *et al* (1990) constructed a model for informal intermediaries where they follow the argument of near perfect information, thus not the asymmetric information route.

The Stiglitz model's suggestion to subsidise interest rates to draw less risky clients into the portfolio takes the information problem as a given and argues for a subsidy to compensate for this through subsidised interest rates. The contrast here is that they generally do not address the challenge to create innovative new lending technologies

[10] See also studies by Stiglitz & Weiss, 1981; Hoff & Stiglitz, 1992.

to reduce the information and contract enforcement problems directly. They also ignore the negative impact that subsidised interest rates can have on borrower behaviour in the form of moral hazard behaviour as will be illustrated in later sections. The important element is emphasised that the building of a relationship between borrower and lender decreases asymmetric information, adverse selection and moral hazard problems and thus leads to a decrease in transaction costs over time. This relationship in essence follows on improved information flows.

The information problem in rural financial markets also impacts on the client. It is clear in the case of savers that corrupt institutions can impact negatively on their assets. This will be addressed in a later section. In the case of the borrower and the impact of unacceptable behaviour of the institution on him the following example may be given. Due to a lack of information flow to the borrower unfair practices may be applied by the lender in the form of overpricing, extremely high additional fees and unfair contracts. Another example may be the compilation of a contract in a foreign language (for the borrower) which may impact negatively on information flows. The most emotional discussion on rural finance issues normally evolves around interest rate levels. The notion implied and put forward by Stiglitz and Weiss (1981) that credit rationing through increasing interest rates results in risky behaviour, therefore subsidising interest rates may involve "better" clients warrants some attention. Subsidised interest rates (mutated price signals) also serve as an incentive for people to enter certain markets. In section three it will be argued that the powerful (in terms of wealth and political power) grab most of the volume of subsidised credit, thus also diverting flows from the intended target group.

2.4 CONCLUSION

The objective of this section was to serve as an introduction to some concepts that will be applied later in the chapter. This is not an attempt at an exhaustive discussion of information economics. It is rather a discussion of some selected topics. Transaction costs are of crucial importance in the functioning of financial markets. Information is extremely important when establishing the level of transaction costs. Grasping these concepts contribute to our understanding of financial markets.

3. THE CONVENTIONAL APPROACH

3.1 CONVENTIONAL CREDIT PROGRAMMES

Following on the introduction of some of the theoretical concepts in section 2, the conventional approach to financial intervention will be discussed in this section. The conventional assumptions will be stated. These assumptions are the underlying points of departure on which the conventional credit programmes were structured. It will be shown that the assumptions on which these programmes and policy frameworks were based were incorrect. This is done by studying the objectives of these programmes, how success was measured and what the results were. Lessons of experience will be synthesised.

3.2 CONVENTIONAL ASSUMPTIONS

The two basic assumptions on which the conventional credit programmes were based highlight the two major differences between these programmes and the new view on financial intermediation in rural financial markets. The first assumption was that small farmers (and by implication rural people) were too poor to engage in meaningful production. Their circumstances are so dire that any form of capital accumulation is out of their reach (Seibel, 1986). Furthermore, because of their inability to over recover in investments and productive activities, and because of a lack of employment opportunities, the rural people are too poor to save. These programmes were initiated and these assumptions construed when Lewis's two-sector model was quite popular. There was therefore no consideration of an alternative to farming in the rural areas. It was also during the same period that Colin Clark and Simon Kuznets (quoted by Dorfman, 1991) formulated their view on the declining role of agriculture in economies over time with development. The target areas for these conventional credit programmes were underdeveloped third world countries, and it follows that their agricultural sectors were the major employers and contributors to gross geographic production. Therefore these assumptions had credibility for the governments of both industrialised countries (the suppliers of finance) and developing countries. It was argued that major inflows of funds into the agricultural sector were a necessary requirement for development. The poor in the rural areas were the major targets. Under colonial administrations, and especially in Africa, the settler farmers received most attention from government in the form of investment in agriculture[11]. The post-colonial governments therefore switched their attention to the traditional farmers. In a number of countries major land reform actions were typical of this period. Farms of colonial farmers were in many instances expropriated and small farmers were resettled.

The central role of governments as implementers and financiers of these programmes, and of government institutions, was typical of the influence of the Keynesian views of the thirties and forties. Economic planning was an enticing instrument for the governments of the day (McKinnon, 1973). The post Second World War success of the Marshall plan was further fuel on the fire for large scale investment programmes in developing countries (Vink, 1986). These favourable conditions for government intervention found a promising instrument in credit programmes during especially the post Second World War period. These programmes were seen as the instrument that would solve low productivity in rural areas and concomitantly the poverty problem. Cheap credit programmes were also compensation to the small farmers for policies that advantaged the urban population.

3.3 POLICY DIRECTIONS BASED ON THESE ASSUMPTIONS

The basic policy on credit programmes was cheap credit to the poor. The basic missing element typical of these policies was a savings component. Colonial governments started cheap credit programmes, but the target population of these

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[11] In Zimbabwe and South Africa measures to support commercial farmers, and which excluded traditional farmers, included subsidised credit, exclusive marketing services and exclusive access to land (Binswanger *et al*, 1993:11). In Zimbabwe, exclusive access to high potential land was also included (Weiner, *et al* 1985).

programmes was the large-scale farmers that were producing for the market of the mother country (Schaefer-Kehnert & Von Pischke, 1986). Credit was strictly allocated to farmers that could produce commercially on a large scale. This was even more reason for the post-colonial governments of newly independent countries to target the poor small farmers that had no access to credit during colonial government.

Subsidised credit was initially seen as the basic motivation for small farmers to produce. But another problem emerged: how to structure these cheap credit programmes. Existing examples were studied and the experts were canvassed in the industrialised countries. For example, a popular model in the USA was the "Farmer and Home Administration"[12] (Bathrick, 1981). This supervised credit programme was replicated in several developing countries. Examples for programmes in developing countries were usually taken from the donor country. Von Pischke *et al* (1983) remarked that it was quite strange that even after years of experience (and failures) the replication of programmes and institutions in developed countries were still taking place.

In the next sections some specific characteristics of disbursement elements of conventional credit programmes are discussed. The arguments put forward by the supporters of the conventional approach will be assessed. Adams (1992a) referred to the conventional approach as the "credit project" or "credit as an input" approach. The supporters of this approach therefore saw credit as the same type of input in the production process as fertiliser and pesticides (for small farmers) and materials (for small manufacturers).

3.4 INTEREST RATES

The most common characteristic of conventional credit programmes was the subsidisation of interest rates. The two base assumptions underlying the conventional approach both emphasised the poverty of small farmers and rural people. A number of arguments are usually put forward to motivate the subsidisation of interest rates. We will discuss these arguments as well as their counterparts. The irony of the subsidisation of interest rates is that it usually contributes to more expensive loans to the borrowers who are the targets of the cheap credit policy.

What is meant by the term "cheap credit"? In general it refers to interest rates being subsidised to a level lower than the market rate (those charged to business or households in the more developed formal financial markets). These rates are usually too low for lenders to be able to cover loan transaction costs and are more often than not, lower than the rate of inflation. They are mostly inflexible and do not change with changes in the market interest rate.

3.4.1 The usury argument

This argument has the moneylender as target and villain. Based on religious beliefs (as echoed by the Bible, the Koran and the Talmud) the charging of interest rates is condemned. Numerous empirical sources state the high levels of interest rates

[12] As well as this programme's predecessor "Farm Security Administration".

charged by moneylenders in all parts of the world (see Adams & Fitchett, 1992). Therefore the supporters of this argument have ample evidence of high rates and the necessary emotional support for their arguments. What is often ignored, is that informal lenders do not regularly receive returns that are far beyond their costs, as shown by empirical findings in developed countries (Adams, 1984). Opportunity costs of funds out of non-lending activities are usually high for these informal lenders who are often these fellow farmers or businessmen with surplus funds (savings). They are also exposed to the vagaries of nature in their enterprises, therefore the high opportunity costs. If all the costs of borrowing are included (i.e. interest rates plus transaction cost) Adams and Nehman (1979) found that cheap formal loans are sometimes even more costly to borrowers than informal high interest loans. Informal lenders have far more information on their clients than formal lenders and therefore lower transaction costs.

The calculation of these high rates also contributes to the problems. How do you compare a rate of 10 per cent per month (e.g. a small businessman with stock turnover period of one month) with a loan to a small farmer at lower interest rate for a full production season (e.g. one year)? One of the essential characteristics of the arguments in favour of cheap rates due to the usurious nature of the informal lender, is the non-existence of convincing evidence of exploitation.

3.4.2 High income countries charge low rates

In this argument the interest rates of developed countries are used as basis for comparison. The supporters of this argument ignore the effect of inflation and do not compare the real interest rate of the two countries. Also, this argument stems from the 1930s, when interest rates in America fluctuated between two and seven per cent. Countries with a highly developed financial market and low rates of inflation are compared with countries with rudimentary and segmented financial markets with high rates of inflation. The provision of cheap credit in high inflation developing countries results in negative real interest rates charged to farmers. It also implies that there is a net transfer to the farmers. In Zimbabwe the difference between nominal rates on deposits and the inflation rate was 84 per cent in 1984 (Mittendorf, 1987).

3.4.3 Financial intermediaries receive cheap funds

Financial intermediaries created by governments and donors to implement the cheap credit programmes receive their funds from governments and donors at no interest or very low interest rate. As Adams (1984) argues, " . . . another non-argument." This argument comfortably ignores the opportunity costs of these funds, the exchange rate risks of foreign borrowed money and most important, the cost of loans to small farmers. This cost (transaction costs) includes the cost of loan default (see table 3.1 for an indication of default rates of conventional credit programmes) and administration costs (e.g. salaries of personnel, writing materials, buildings, vehicles) (Saito & Villanueva, 1981:631). For formal sector small farmer loans, transaction costs of 2.45 times the interest rate (in this instance 12 per cent) have been recorded (Cuevas & Graham, 1986). One of the biggest problems of conventional programmes is default. Repayment rates as low as 2 per cent have been recorded (Due, 1979). It

will be very difficult for any kind of institution to cover these costs with income from subsidised interest rates.

3.4.4 Lender viability

A specific example of the impact of deregulation of interest rates on the viability of American Savings and Loans Associations is also extended to attempt an argument against interest rate reforms in developing countries (Adams, 1984). The argument in the case of Savings and Loans Associations was as follows: Most of these associations have a substantial segment of their portfolios tied up in long term mortgages at fixed rates below current market rates. By deregulating interest rates they will be forced to pay higher deposit rates in order to be able to compete for deposits with the other financial institutions. This may force these associations into insolvency.

This argument cannot be extended to financial intermediaries in developing countries, especially those that provide loans in cheap credit programmes. The majority of their loans are short-term instruments, e.g. for a production season. Furthermore, they do not provide deposit facilities. And, we have already argued that at these low rates they are unable to cover their costs.

3.4.5 Farmer behaviour

Farmers are generally regarded as rational decision-makers. Schultz (1964) argued that conventional farmers are, given their constraints, efficient allocators of resources. Economists like Falcon, Mellor, Ruttan and Timmer have made it clear that agricultural development is important, that new technologies, price incentives and supporting infrastructure are its primary determinants. The work of these economists convinced most policy makers that farmers respond to production incentives (Adams & Higurashi, 1987).

However, as soon as credit is involved, the supporters of cheap credit would like us to believe that farmers are not rational decision-makers. They see credit as necessary to induce farmers to make productive investments and to use new technology. They see it as a way for governments to share the risks of investment by farmers. This concern with cheap credit may mask the fact that perhaps the proponents of the cheap credit programmes are asking farmers to invest where the perceived returns are low.

A further argument lies with the expensive nature of cheap credit, if transaction costs are included in the calculation, for most small farmers. Ahmed (1989) found that transaction costs for obtaining loans from formal sources are sometimes so high that borrowers prefer informal loans with higher interest rates. Large numbers of rural borrowers use informal sources of credit frequently, which implies that many borrowers would not be sensitive to higher rates on formal loans. But, the higher interest rates should be accompanied by more efficient services resulting in lower transaction costs.

3.4.6 Income transfer mechanism

This argument attempts to prove that cheap credit is an income distribution instrument. Thus providing small farmers with cheap credit will increase their incomes, and it will also compensate the small farmers for discriminatory fiscal and agricultural pricing policies (Donald, 1976; World Bank, 1975). There are three ways in which cheap credit may contribute to increased incomes for small farmers: the potential increase in income through access to additional funds to invest; transfers to the borrower in negative real interest rate situations and by not repaying a loan. It is quite clear that a small farmer can only realise "these advantages" (Adams, 1984) by having access to cheap credit.

In the first option the question should be asked: What potential is there in the conventional farming enterprise to increase income, solely by an infusion of credit? Thus no attention to other constraints. In a situation where farmers indeed get low prices for their produce due to agricultural pricing policies, what motivation will there be to increase output? In the second option, a farmer can only benefit if he/she receives the loan. Let's use Brazil as a practical example (Adams & Meyer, 1982). Formal loans targeted to small farmers in Brazil (for the period 1970 to 1980) were equal to 50 per cent of all small farmer credit in the developing world over the same period. During this period real rates plummeted from 0 to -30 per cent. The total transfer in purchasing power amounted to nearly $13 billion. Ironically, only 14 per cent of Brazilian farmers benefited by this. Of all farmers, 10 per cent (those with more than 100 ha of land) received nearly 70 per cent of the total formal agricultural loans. It is obvious that the majority of farmers, especially the poor, did not receive loans and could not benefit by this income transfer. This pattern is echoed in other developing countries (Gonzalez-Vega, 1983). The preceding argument also holds true for the third option mentioned.

Another effect of low interest rates is that they force intermediaries, the few that provide deposit facilities, to pay low rates on deposits (usually negative in real terms). Poor households save small amounts. They are not in the position to accumulate enough savings to invest it in lumpy investments like land or cattle. Thus cheap credit hurts that segment of the population which it is supposed to support (Adams, 1984).

3.4.7 Interest rates and inflation

Raising interest rates would add to inflation. This argument is based on the inclusion of interest rates in the calculation of inflation indices. Another avenue, it is argued, is that raising interest rates will increase the cost of production, result in higher food prices, and will thus increase inflation. The underlying problem with these arguments is that they turn the causality between interest rates and inflation around. Normally, expectations of higher inflation influence interest rates in a deregulated interest rate environment. For higher interest rates to impact on inflation, rates should be continuously increased. A one time increase will in direct terms have a one time impact on the inflation rate, as inflation is an ongoing process (Adams, 1984).

Furthermore, a rise in interest rates could have a very positive dampening effect on inflation through the deposit side of the market. Positive real interest rates on savings

accounts may attract more deposits and this can influence the growth of the money supply, with concomitant influence on inflation. The case of Taiwan in the 1950s and 60s is a good, but extreme, example in this regard (Irvine & Emery, 1983). In order to counter rampant inflation and an over-supply of money the Taiwanese government introduced deposit rates of more than 100 per cent per year in 1950. Over time they decreased the rate and changed the deposit period from one month to six months. During the 1950s the proportion of deposits of total money supply rose from 3 per cent to a high of 50 per cent, stabilising at about 30 per cent at the beginning of the 60s. This assisted the government to provide a stable fiscal environment and to bring the inflation rate under control. An additional benefit concomitant to raising interest rates to real levels is that savings being more attractive than immediate consumption enables rural families to rely more on self-financing than credit.

3.4.8 The second-best argument

"The 'second best' argument is the Goliath of the justifications for cheap agricultural credit" (Adams, 1984). This argument stems from the realisation that the rural sector is penalised in many ways by government policies. This ranges from agricultural pricing policies favouring the consumer,[13] overvalued exchange rates, taxes on farm inputs, taxing agricultural produce by levies to finance control (marketing) boards and agricultural organisations (across the board while only selected farmers benefit from this) to under-investment in infrastructure and services in rural areas. Cheap agricultural credit is therefore seen as a way to offset the adverse production and equity effect of these policies.

We have argued earlier that very little of targeted credit land with the group targeted. The Brazilian example discussed is a case in point. Thus all farmers suffer from adverse policies but only a few, usually the larger scale farmers, benefit by subsidised credit. Another effect, ignoring the adverse distribution of cheap credit, is the impact of fungibility of money[14]. Because of fungibility there is no direct relationship between the cost of the loan and the willingness of the borrower to use more of an input that is taxed, or to use more of an input to produce a good which is taxed. "A poor investment continues to be a poor investment even though the investor has access to cheap credit!" (Adams, 1984).

3.5 TRANSACTION COSTS

It is evident from the preceding discussion on the conventional credit programmes that the concept of transaction costs was not among the chief considerations for those supporting this approach. Access for small farmers (without conventional collateral) to formal credit sources is constrained in many ways. They have to travel a distance, more than once, to apply for loans. They have to wait in queues. They have to wait for long periods before they receive the loan, often too late for the planting season. For formal lenders transaction costs are mainly high because of the lack of

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[13] In South Africa the situation also arises between small farmers and commercial farmers, where commercial farmers are favoured through agricultural pricing policies. The small farmers, who mostly are deficit producers (or net consumers), have to pay higher prices for buying additional staples (over and above what they produce) (Van Zyl & Coetzee, 1990).

[14] This will be discussed in more detail in a later section.

information on prospective clients and the implied risk. They have to make an effort for numerous applications for small loans to get information on creditworthiness of clients, to assess offered collateral, to ensure repayment and follow up default. They try to pass these costs to the borrower, not by increasing interest rates, but by making loans even more inaccessible through red tape. A study in Bangladesh, for example, has shown that the average cost of a loan smaller than 1000 Takas varied between 146 per cent and 169 per cent in the formal market, while it varied from 57 to 86 per cent in the informal market. Only for loans above this amount were effective loan costs cheaper for credit from formal markets (Ahmed, 1989). It is evident why small farmers who need small loan amounts favour the informal sector as a source.

Even though cheap credit programmes are usually targeted at the poor, lenders almost inevitably favour borrowers who apply for larger loans and have more acceptable collateral to offer. This means that they have lower transaction costs per loan, but the target group receives a decreasing credit proportion. The effect of high transaction costs and low interest income causes an under recovery on operations. The only way these institutions can survive, is by injections of funds from government and donors. The effect one would expect from the activities of the formal sector in rural financial markets is that it will deepen the market and lower transaction costs (and integrate rural and urban financial markets). Cheap credit programmes create quite an opposite effect. They increase transaction costs in the market, fragment the rural market even more in formal and informal segments and by increasing transaction costs decrease the number of transactions taking place. Therefore it decreases access to financial services for the majority of rural people (Von Pischke, 1991).

Very often in rural financial markets some of the causes of high transaction costs are exactly the same influences that prohibit the small farmer from making certain investments. For example, in an area where a cheap credit programme is launched, and not particularly successful, other constraints than credit may exist. These constraints include shortage of infrastructure impacting on shortage of transport facilities, lack of communication facilities, lack of farmer support services in general. Transaction costs are also increased by these constraints. Poor flows of information increase transaction costs. Low productivity of agriculture and lack of positive returns on investment opportunity increase the default rate of borrowers, as well as transaction costs.

Adams and Higurashi (1987) differentiate between normal and imposed transaction costs. Normal transaction costs in rural financial markets (as indicated by high interest rates charged by informal lenders) tend to decrease as the rural financial market gets more developed and information flows more freely. Thus normal transaction costs decline per unit (loan) as rural financial markets expand and realise more economies of scale and scope. Cheap credit programmes, as argued earlier, increase transaction costs and counter rural financial market development. Loan targeting is one of the more frequent instruments used by formal institutions in high transaction cost situations.

3.6 LOAN TARGETING

Loan targeting is a broad term used here to indicate selective credit policies. Fry (1988) defines selective credit policies as those policies designed to channel credit to priority sectors, groups or regions, at subsidised rates of interest. There are six major categories of selective credit mechanisms, namely subsidised loan rates for priority sectors, differential rediscount rates, direct budgetary subsidies, credit floors, credit ceilings and the proliferation of specialised financial institutions.

The first method - subsidised loan rates for priority sectors – will be discussed in this section. It is however difficult to force non-government financed financial institutions (like commercial banks) to lend at below market rates to the priority sectors. The second mechanism, differential rediscount rates, is one way to overcome this problem. Here the government compensates financial institutions for lending at subsidised rates to priority borrowers. Thus the government in fact provides the biggest percentage of priority credit indirectly. This method was considered in the South African Department of Agriculture as an alternative to direct capital subsidies from government to farmers (Agricultural Credit Board, 1993). The third method of selective credit policies is direct budgetary subsidies. The government in South Africa to finance the commercial farming sector commonly used this method. The fourth method is credit floors. The government sets minimum proportions of the lending portfolio of financial institutions that must be lent to a priority sector. Credit ceilings constitute the fifth method. This involves the setting of credit ceilings on non-priority sector lending, thus the opposite of credit floors. The final method is to use specialised financial institutions to channel large sums from the public sector to the priority sectors. In South Africa the Land and Agricultural Bank, the Agricultural Credit Board, the Development Bank of Southern Africa, the Small Business Development Corporation, the Industrial Development Corporation, homeland agricultural banks and development corporations are all examples of this method applied.

The methods mentioned above suffer from internal inconsistencies (Fry, 1988). In the first place, they attempt to encourage lower yielding investments through interest rate subsidies, whereas higher-yielding investments are not subsidised. This is contrary to the normal functioning of financial markets, i.e., the allocation of investment funds to the highest yielding investments. The immediate counter argument is that private and social returns are not the same. Thus the selective credit policy can encourage investments with high social returns even if private returns are relatively low. Historically the record is not so pure. Available evidence seems unclear as to whether planners identified investments with high social but low private returns. Development plans in most countries seem to have favoured (through import licences and selective credit policies) investments with relatively low social returns and high domestic resource costs (Fry, 1988). Secondly, another inconsistency lies in the inversion of deposit and loan interest rates. The fungibility of money causes that borrowing takes place at priority loan rates for the express intention of building up deposits yielding a higher return[15]. Examples of this behaviour exist for Indonesia, Korea, Pakistan (Fry,

[15] Many a student loan from commercial banks has been squandered on the stock market - and some students could even repay their loan, praised for their handling of financial matters, and granted an even bigger loan the following year!

1988) and Brazil (Graham, 1992). The third inconsistency of selective credit policies is that if they are successful they normally reduce the demand for labour by distorting factor prices. "Negative real interest rates for priority borrowers give an extraordinary price signal. The message is that this priority credit is not just a free good, but actually has negative value like rubbish. The result is to encourage highly capital intensive production techniques…." (Fry, 1988). Khatri *et al* (1995) in calculating a total factor productivity index for South African agriculture indicate the reverse in capitalisation trends after the demise of negative real interest rates in South Africa. Lastly, selective credit policies distort signals to private sector institutional lenders. Normally, the tendency for these intermediaries would be to lend at the market-clearing rate, and if that does not happen to decrease the rate (thus subsidised rates will have last priority). If they are forced to do it the other way round, with compensation, we have showed that the high levels of transaction costs, associated with subsidised lending, may jeopardise their sustainability.

The ironic reality of selective credit policies is that the target group more often than not receives less of the subsidised credit over time. The Brazilian example has been cited earlier, Gonzalez-Vega (1984) was responsible for naming this phenomenon "The Iron Law of Interest Rate Restrictions." We return to the example cited by Fry (1988), that of interest rate ceilings. The imposition of an interest rate ceiling results in an over-demand for funds at the lower set interest rate. It also impacts on the level of deposit rates that can be paid by intermediaries. The common reaction of intermediaries is to ration credit. At the low interest rate they struggle to recover costs. By adding the component of targeting to a specific group (e.g. small entrepreneurs) they are faced with numerous requests for small loans. Transaction costs increase, and in many instances are higher than the recovery possible through the subsidised interest rate. Because intermediaries draw fewer deposits, they experience a drop in their total portfolio of assets. Thus they are increasingly reliant on the public sector as a source of funds.

Intermediaries use three variables, the size of the loan, the interest rate charged and non-interest terms of the loan contract, to structure lending to borrowers with different levels of implied transaction costs (Gonzalez-Vega, 1984). As soon as interest restrictions are in place, lenders are left with the remaining two variables to adjust according to transaction costs profiles of borrowers. This leads to excessive loan portfolio concentration in terms of the Iron Law. The two premises underlying selective credit policies are that planners know best what investments should be undertaken, and secondly, that targeted programmes will ensure that the specific targeted investments are undertaken. We have provided arguments against the first premise and partially against the second.

3.7 FUNGIBILITY AND THE MEASUREMENT OF SUCCESS

The Iron Law states that the bulk of the targeted finance will go to a less risky group. There is therefore, no guarantee that the chosen investment opportunity of the programme is being invested in. A further important characteristic of money also impacts negatively on the targeting of specific investments, that of fungibility[16]. The

[16] "Fungibility is the interchangeability of units of money ... it is a prime characteristic of modern money" (Von Pischke & Adams, 1983).

conventional approach discussed in this section sees credit as just another input in the production process. However, credit in the farmer's hand looks exactly like any other unit of money held by the farmer. Thus the farmer does not necessarily align the allocation of money with the intentions of the planner who decided on a subsidised credit scheme (substitution by the farmer). The farmer will allocate where he/she will receive the highest return. That may be in education for the children, transport, business or farming. It follows that the fungibility of money poses a serious problem for the evaluation of credit programmes. Even loans in kind are fungible, as long as a secondary market exists for the inputs received in kind.

Von Pischke and Adams (1983) refer to "additionality, substitution, and diversion" as terms that explain the difficulty of evaluation because of fungibility. Additionality refers to the before and after evaluation. Did the project add anything that would not have happened in any case? How can one prove that with many other variables around they could just as easily explain the added value? How does one know whether the farmer would not have allocated funds for a specific investment without access to subsidised funds? At government level, the case of a Latin American country can be cited (Von Pischke & Adams, 1983). In a donor funded programme a total of $95 million was loaned to this government (from 1960 to 1978) for an agricultural development programme with clearly stated objectives. One objective was to increase the term structure and volume of agricultural loans. After implementation a positive evaluation report on the project was submitted. But small farmers continued to express problems with a shortage of agricultural credit. Another evaluation was commissioned, this time with different criteria for success. Over the period during which the project was implemented the proportion of government funds allocated to agriculture was more or less equal to the loan. Thus no additional funding from the government. At the same time other sectors received increased budgetary allocations (in real terms) from the government, e.g. defence, non-agricultural development and general expenses. Evaluation of the programme indicated that the volume and term structure of agricultural loans stayed the same or decreased - a clear case of fungibility and the demonstration of the concept of diversion of funds at government level. The Iron Law of Interest Rate Restrictions, fungibility and inconsistencies of targeting policies point to the futility of such an approach.

3.8 LOAN RECOVERY

A common characteristic of subsidised credit programmes is high default rates (Graham, 1992). Table 3.1 shows a range of loan default rates in developing countries. A nagging question keeps reappearing when high default rates of cheap credit programmes are discussed - why these high rates? Graham (1992) sees this phenomenon in the light of an entitlement perception of rural farmers towards government financed credit programmes.

Furthermore, the lack of repayment management by these programmes also contributes to this factor. The suppliers of these funds are often donors from developed countries, and in practice it will imply that the donor will have to prosecute individual farmers. This notion seems obviously impractical. The pecking order approach may shed some light. Although the majority of surveys in rural areas indicate that most rural families source the majority of finance from own funds, thus

the "safety first" principle, evidence from South Africa (Coetzee, 1993) indicates that farmers took up public financed credit *en masse*. This may imply that the farmers perceive this source of funds to be a safe source, in terms of not losing control over their enterprise in situations of default.

Table 3.1: Percentage loan delinquency rates in developing countries

Country	Institution	Arrears to portfolio	Arrears Rate *
Africa			
Ethiopia	CADU		50
Ghana	ADB		55
Kenya	GMR	25	33
Nigeria	WSACC	52	80
Tanzania	NDCA	28	50
Asia			
Bangladesh	AB	43	76
Korea	NAFC	7	15
Philippines	Rural Banks	25	24
Sri Lanka	New Credit Scheme	50	41
Latin America and the Caribbean			
Bolivia	Agricultural Bank	1	68
El Salvador	ABC	37	81
Jamaica	31	10	

* Arrears rate is equal to 100 minus the repayment rate. The normal problems with rescheduling of loans and criteria for default impact on the accuracy of this estimate. Source: Fry (1988).

Quite often due to the divergence of funds because of credit rationing, the larger scale farmers with strong political ties are involved in a pure rent seeking exercise when they get access to these cheap funds. Also, as local savings do not contribute to the portfolio of financial intermediaries in cheap credit programmes, no emotional ties exist between local people and the fate of the intermediary. Altogether a recipe for wilful default, and a classical case of moral hazard.

3.9 SAVINGS MOBILISATION

As in the case of transaction costs, savings mobilisation is a glaring omission from cheap credit programmes. Vogel and Burkett (1986) see savings mobilisation as the "forgotten half of rural finance." This is primarily because of the assumption that rural people are too poor to save. Experience in the informal financial sector shows the opposite. Savings mobilisation does matter and rural people do save. But, even if intermediaries of cheap credit programmes provided deposit-taking facilities, they would not have been able to compete on an equal basis with other intermediaries. Low interest rate policies negate paying positive real deposit rates. Savings mobilisation and its advantages will be discussed in more depth in the next section.

3.10 INTERMEDIARIES

Cheap credit programmes are totally borrower orientated. Measures of success of these programmes concentrate on how many farmers took up loans, but failed to give any attention to the financial intermediaries that provided these loans. In a situation of under recovery of costs due to high transaction costs and low interest rates, cheap

credit programmes are notorious for financially ruining intermediaries. These intermediaries have no other source of funds than governments and donors. Savings mobilisation would have contributed to the information base of these intermediaries on their assessment of possible clients. It also would have given local people a stake in the intermediary, and a higher motivation to repay loans. Thus the impact of little and imperfect information and a lack of psychological collateral adds to the transaction costs of the intermediaries.

The deficiencies inherent in the cheap credit programmes impacted directly on the viability of the intermediaries. A common type of intermediary used in these programmes is the agricultural development bank. "The landscape of Sub-Saharan Africa is littered with the skeletons of development banks done in by supply-led credit schemes" (Graham, 1992). In addition to the reasons cited, these banks could not protect themselves from the erosion of inflation. This, together with their inability to collect loans, forced them into a downward spiral of oblivion. High transaction costs, lack of other sources of funds and high default rates all contributed to lower and lower levels of lending. Donor agencies also abandoned them as their institutional weaknesses became more evident (Gonzalez-Vega, 1989).

In addition to the range of constraints facing these institutions they were also prone to the impact of covariant risk. An institution that serves one sector (for example agriculture) in a specific geographic area where all farmers will be exposed to the same weather risk (or other risks not under the control of farmers) may face mass default where these calamities occur. This implies that single sector institutions, serving a specific geographic area are not left with any instruments with which to mitigate risk. No spatial or sectoral spread of risk is possible. This was one of the weak points in the structuring of these institutions, which creates the perception that they were designed to fail.

3.11 PROGRAMMES FOR SMALL ENTERPRISES

Following on the initial emphasis of agricultural credit through cheap credit programmes, the next target chosen was small enterprise financing. When initial results of these programmes proved to be both encouraging (in terms of the perceived number of people reached) and discouraging (in terms of high defaults) the emphasis shifted to small enterprise programmes[17]. This increased interest in small enterprise funding is also because of late recognition that agriculture does not provide for the full subsistence of rural people (Adams & Von Pischke, 1992). In South Africa agriculture contributes not more than 30 per cent to small farmers' household income, and on average less than 10 per cent (Coetzee, 1988). The early efforts in financing small enterprises resembled the conventional approach to agricultural financing. Thus loans dominated these programmes (Meyer & Nagarajan, 1989). It was therefore no surprise when the initial results from these programmes resembled those of the farmer credit programmes. Rural small enterprise funding programmes were not as popular as those initiated in the urban areas of developing countries. The area in which these programmes were initiated did however not matter in the policy approaches followed.

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[17] Small enterprise refers to small business, small manufacturers, small agri-business, etc. Small depicts enterprises that use mostly family labour and that employ less than 5 permanent labourers. Although at this stage we are differentiating between small business and agriculture we will present an argument later where small enterprise will be seen as encompassing agriculture, trading and manufacturing.

3.12 RURAL FINANCIAL MARKETS

Ignoring risk and transaction costs also implies ignoring the role of rural financial markets. Adams (1992a) argues that the different opinions about the proper measure of success (for the conventional and new approaches to financial programmes) stem largely from the different viewpoints on the appropriate role of rural financial markets. Supporters of the project view of credit see loans as an effective mechanism for the transfer of subsidies to selected target groups, or as an effective tool for promoting activities. Supporters of the market performance view (the new approach), on the other hand, stress the role finance plays in resource allocation.

To take a view on how markets should be used, Adams and Meyer (1989) argue that the problems associated with the project view of credit resulted from an over-reliance on financial markets to meet development goals. "Numerous well-meaning policy makers inadvertently . . . wrecked (financial markets) . . . by imposing tasks on these markets that are not suited to their inherent capabilities . . . Attempts to use financial markets to transfer subsidies and to target loans are not benign when it comes to the well-being and behaviour of these markets" (Adams, 1992a). Adams and Meyer (1989) concluded that employing rural financial markets to transfer subsidies results in inequitable distribution of incomes and assets, that targeted loans had little effect on borrower behaviour and that loan targeting and subsidies damaged the ability of financial markets to assist with improving the efficiency of resource allocation. Stated differently, financial markets facilitate the connection between surplus and deficit units and decrease the cost of making contact and of exchange between these units (transaction costs), thus financial markets assist and facilitate the reallocation of resources.

As the conventional approaches ignored all but borrowers, no attention was given to the impact these programmes had on rural financial markets. Notwithstanding the inflow of funds at very low interest rates, the informal sector of rural financial markets continued functioning. Aryeetey (1993) remarked that contrary to expectations the informal economy in Ghana continued to grow, even in periods during which the formal economy grew steadily. The conventional intervention in rural financial markets therefore did not address the real constraints of rural people. Access to credit, deposit services and other financial services at low transaction costs are more important than large inflows of cheap credit/high transaction cost funds.

3.13 CONCLUSION

The emphasis in the conventional approach was on supply-led subsidised credit to targeted sectors and clients. This in essence countered the efficient operation of rural financial markets through the mechanism of high transaction costs. Although these programmes are referred to as conventional, they are still being implemented, and notably so in Africa. The attention of international research institutions on financing of small enterprises and farmers turned to Africa very recently. Thorough research and surveys in rural areas were notably absent from the literature for the period in which the conventional programmes were initiated. This implies that most of these programmes were implemented based on perceptions of the decision-makers of

circumstances in the target countries. A vast body of research accumulated in this field during the past thirty years. The outcome of conventional programmes and research results highlighted crucial deficiencies in these programmes. The concept of transaction costs and their role in financial markets, too, were issues that were only addressed in the last three decades. Thus the inherent weaknesses of the conventional approach have been exposed. Several researchers concentrated on the informal sector. The question was often posed: How is it possible that conventional credit programmes failed while the informal sector kept operating, and in some areas thrived, notwithstanding the negative impact the formal programmes had on rural financial markets? In the next section the informal sector will be discussed. This will add to the background provided by the discussion of the theoretical concepts and the conventional approach. This background is necessary as a building block in attempting to provide principles that should be adhered to in looking at new views on intermediation in rural financial markets.

4. INFORMAL FINANCE AND SAVINGS MOBILISATION

4.1 INTRODUCTION

Informal financial activities are common throughout the world. Although the perception exists that informal activities only take place due to the unavailability of formal financial services, informal financial arrangements even exist in formal financial intermediaries - between staff members (Von Pischke, 1991)[18]. The existence of these activities signals a need by those that take part in them, for types of services not supplied by formal intermediaries. Unavailability of formal intermediaries should be stated in terms of access. There are two motivations for informal finance: Firstly, an autonomous system and secondly, a system operating in moderation in reaction to the formal financial sector. In some instances the formal intermediaries do not serve certain remote areas. In other instances they do serve these areas but access to the formal intermediaries is impossible due to high transaction costs or to incomplete range of services provided. Furthermore, many poor people perceive formal institutions as inaccessible, mainly due to a lack of information on how these intermediaries operate (DeLancey, 1992). Until the late 70s, research done specifically on informal financial activities was notably absent from rural financial market studies (Adams & Fitchett, 1992). Perceptions on the informal sector were dominated by the concept of usurious moneylenders that exploit poor rural people. Not only is the moneylender but one of the intermediaries in the informal financial sector, but exploitative actions of moneylenders are not the norm.

The most puzzling characteristic of the informal sector was however the ability of these arrangements to withstand the circumstances that ruined numerous formal intermediaries (Meyer & Nagarajan, 1991). Another characteristic is the ability to withstand the impact of flows of subsidised credit into rural financial markets. Although one of the goals of cheap credit programmes was to increase the supply of funds, and thus to decrease the high interest rates charged by moneylenders, the opposite often happened. In areas where cheap credit programmes were implemented, interest rates of moneylenders often rose and the incidence of

[18] Von Pischke reported on the informal financial activities of staff members of the IMF.

transactions by the moneylenders increased. This may seem contrary to the laws of supply and demand. However, due to the high transaction costs of formal programmes, the targeting of loans and other maladies of these programmes, the supply of funds to the poor did not really change. In fact, the supply of funds to the rich increased and these cheap credit programmes did not compete with the moneylender, they competed with other formal intermediaries active in the field. The result is that in many ways these programmes decreased both the linking and efficiency of the financial markets and the activities of the formal sector in these areas.

The informal financial sector is not without constraints. In most countries fragmented, unintegrated markets have not been positively influenced by informal activities. No significant integration has been achieved, for example. Informal activities are rather characterised by their existence in fairly small isolated geographic areas. Mostly small amounts change hands, whether saved or borrowed. Saving in many instances could be described as money keeping rather than saving, as interest is quite often not part of the transaction. Intermediation, in its definition as the act of serving as a conduit for transactions with concomitant credit creation, is not always applicable in the case of informal intermediaries in rural areas.

The rest of this section on informal finance will deal with the actors in informal markets. Transaction costs, risk and information as well as collateral arrangements in informal markets will be discussed. Savings activities play an important role in informal finance and a discussion on savings will therefore form part of this section. Constraints of informal finance will be highlighted. Lessons for formal intermediaries will be derived from this discussion.

4.2.1 Who are the suppliers of financial services in informal finance?

Family and friends

A range of different intermediaries is active in informal finance. The borrower of today may be the lender of tomorrow, depending on returns to investment. The majority of transactions are between family and friends, normally at very low or no interest rates. However, these transactions always involve reciprocal obligations. "I helped you in time of need, and I trust that you will help me when I need it." These reciprocal transactions contribute to the management of risk by rural households. When households from the same area face a covariant risk a shortage of funds for borrowing arises. It is during these times that most rural people turn to moneylenders.

The moneylender

The villain in most motivations for cheap credit programmes was often the moneylender. Accounts of high interest rates led to arguments of exploitation. Moneylenders usually lend out of their own sources to a mostly consistent group of borrowers (Timberg & Aiyar, 1984). Moneylenders provide small loans quickly and for short periods. They have comprehensive, almost perfect, information on the creditworthiness of their clients, based on long term relationships they have with them. A continuum of moneylenders exists, ranging from those doing it permanently to those that enter the market from time to time.

Merchants/traders

Merchants quite often supply goods on a credit basis. This can happen in the context where a wholesaler provides goods on a line of credit to retailers and retailers provide goods on credit to the clients. The provision of credit is not the main activity of merchants and therefore a small number of clients usually benefit from it. In most instances these are clients who are well-known to the merchant and who have a past record of repaying debts. The majority of clients purchase goods on a cash basis. Economies of scope is the main motivation for merchants to provide purchases on credit (Adams, 1992b). These credit transactions also seem to increase with increasing commercialisation.

Pawnbrokers

Pawnshops are a world-wide phenomenon. These financiers are more common in urban areas. They work on a collateral basis. A client offers an article as collateral and receives a loan based on the value of the article. These loans are for short periods. By repaying the loan the client retrieves the article presented for collateral. If a client fails to repay the loan by the due date, the pawnshop has the right to sell the collateral to retrieve the money lent. Loan sizes tend to be less than the value of the article presented for collateral. Only articles with a secondary market value will be accepted as collateral. The pawnbroker realises his income from interest and over-recovery on items that have to be sold. Adams (1992b) reports that most pawnbrokers prefer clients to redeem loans that contribute to a longer relationship with clients. Because of the collateral arrangements pawnbrokers usually need no information on their clients. The interest rate charged and the large margin when selling collateral articles cover transaction costs.

Loan brokers

Loan brokerage covers services provided to formal and informal financiers. With informal financiers the loan broker brings together borrowers and lenders in the market. Usually the borrowers cannot access other lenders (e.g. formal lenders). Interest rates in these cases are usually high. These brokers provide information on the potential borrower to the lender. The lender thus pays the broker for information that will lower his transaction costs. The service provided to the borrower is the effort of finding a lender willing to engage in a transaction.

Landlords

This variant of an informal financier is getting less common as continued land reform takes place. The landowner used to provide the tenant with credit for production inputs. Repayment was organised in terms of physical goods or cash. These loans ensured the landlord of labour and entrepreneurial skills. It also ensured that his land was used productively. This is therefore a form of linked contract. In situations where the productive use of land is the collateral the landlord situation could also be applied. Normally the collateral is the use of the land (of the borrower) for a certain period.

Rotating Savings and Credit Associations (ROSCAs)

The ROSCA can be defined as "an association formed upon a core of participants who agree to make regular contributions to a fund which is given in whole or in part to each contributor in rotation" (Ardener, quoted by Schrieder & Cuevas, 1992). The ROSCA is a popular group financial activity known throughout the world. Although it is mostly described in developing country context, it is sure to be found in any community (in different forms), thus also in developed countries. In Africa it is quite common (Miracle *et al*, 1980). A member of the ROSCA getting the contribution early on is in the role of borrower, while receiving contributions at the end of the cycle is more like saving. The ROSCA has several variants through Africa and the South African version is called a "Stokvel".

Three distinctive characteristics of ROSCAs contributing to their popularity should be highlighted (Von Pischke, 1992a). ROSCAs are very flexible institutions. They can be applied in diverse social circumstances, have diverse group characteristics and in diverse countries (in both rural and urban settings). They result in low transaction costs and positively influence term structures of finance. ROSCAs also minimise risks for the participants. Lastly, they minimise influence from non-members in the financial affairs of members. However, this is true for most activities on collective basis. When a member receives a pay-out and does not purchase something quickly, the funds are subject to claims from family members.

Savings groups

Savings groups or clubs are a popular group savings activity in developing areas. A group will usually be formed with a common objective. Funds are deposited on either a regular or irregular base with a group leader. The group leader usually deposits the funds in a bank. Where banks are unavailable money guards are paid to keep the funds. The objective of savings groups can be quite varied. Adams (1992b) differentiates between those who save for specific individual purposes and those who save for communal purposes. An example of the latter may be saving for the building of a school, a clinic, or the installation of a tap. Some groups even invest collectively in a business, which could be run by the group, or by an appointed manager. Savings groups also provide a mutual motivation to save, which members could find difficult to do individually.

Mutual funds / burial societies: Another version of the savings group is the burial society. This is very popular in some rural areas of South Africa (Coetzee, 1993). In a study it was found that more than 90 per cent of respondents belonged to a burial society. People, usually from the same community, to cover costs of burial of members in event of death form these societies. These are unique variations of burial insurance, as not only the contributing member is covered, but also all members of his household.

Money guards/money keepers

In areas where deposit facilities are scarce money keepers more often play an important role. Money keepers guard the savings of individuals or groups for specified periods of time at a small fee. Aryeetey (1993) explained the example of a

money keeper providing a service to market women in Ghana. The money keeper makes rounds of the market on a daily basis. The market women will deposit very small amounts daily and withdraw this amount at the end of the month, or if urgently needed. In the Ghana example the money keeper keeps one day's contribution of a market woman as the fee to keep the money for a month. Money is given to money keepers for a variety of reasons. It may help the saver to accumulate funds and make it more difficult to spend it, as it is with someone else. It keeps money out of the grasp of husbands, wives and other family members. Shipton (1992) reports that in The Gambia it is common to have a box made up by a carpenter that cannot be opened by the owner. The only way to get the money is to break the box.

Labour groups

These groups, described by Shipton (1992), play an important role in collective activities in rural villages. The sports clubs and burial societies are derivatives of this group concept. In The Gambia they are usually organised to earn an income through selling the group's labour. These groups are mostly well organised and have a hierarchy of positions and an elected leader. Sports clubs traditionally have a president and controlling committee. In the labour groups, called "Kafo" in The Gambia, money is saved for collective uses, which may include providing loans to members. Some of these groups provide labour and financing of community projects.

4.2.2 Information and transaction costs

The most telling difference between formal and informal financial activities lies in the area of transaction costs. The most important influence on transaction costs is the level of information that you have on prospective clients. All markets are characterised by external and internal risks. External risks in the informal sector of rural financial markets impact equally on most of the actors in the market. Internal risks are where the real difference lies. Informal financial institutions are able to survive due to the high level of information that the informal institutions have on borrowers (and depositors). How do they obtain this information? Lenders and providers of other financial services in the informal milieu obtain this information because of close proximity to clients and knowledge of their activities and the fact that most of them have a long-term relationship with their clients. Clients therefore have the chance to build a creditworthiness record. They further use specific mechanisms as substitutes for collateral, i.e. peer monitoring and interlinked loan contracts. Therefore, moral hazard and adverse selection problems, which can occur under asymmetric information, are not as prominent in informal as in formal financial markets. Siamwalla *et al* (1993) state that the application of asymmetric information models in the case of informal markets is misleading. They argue that perfect information models are more applicable in informal markets.

The rigid collateral requirements of formal financiers are not applicable in informal markets. Informal financiers adjust to the situations of their clients. They use innovative approaches to substitute for collateral. The group approach is one in which peer monitoring is exercised. In transactions among family and friends, familial and friendship ties are used as collateral. Interlinked contracts are also used. An example of the latter is the custom of pledging the productive value of land as collateral. Thus on default the lender can use the land for a pre-specified period. In this way the land

market and the financial market are linked. Another example is where a farmer has to sell his harvest through a lender (obtained credit from a processing firm) (Ladman *et al*, 1992). In this way the financial market and the market for agricultural produce processing are linked.

4.2.3 Savings mobilisation

From the discussion of the different actors in the informal side of rural financial markets it is evident that savings play an important role. There is a far higher demand for savings or deposit taking facilities than for credit among poor rural people. The willingness of rural people to pay institutions to keep deposits is an illustration of the important role of savings. The majority of rural people finance their activities out of savings. Where formal institutions are available rural people use them intensively. The popularity of postal savings and later on commercial banks as deposit taking institutions, has been illustrated by numerous surveys. In areas where the risk of high inflation exists people invest in physical assets, like jewellery, implements and livestock. These people actively monitor their investment, which is evident from the behaviour of cattle owners, when livestock prices start to decrease. Lyne and Ortmann (1991) remarked that an immediate pattern of liquidation of assets is observable in these circumstances.

The activities of groups involved in savings and credit are strengthened by the knowledge of group members that their savings are involved. This is an important collateral substitute and one which has mainly been ignored by the formal credit programmes in rural areas. Contrary to earlier beliefs it is also evident that the majority of rural people are involved in some kind of savings exercise, whether it is through formal or informal intermediaries, or even hoarding, as long as they can accumulate funds. Not only do savers try and protect funds accumulated from the demands of family members, they also protect their savings from themselves. The use of moneylenders and an unopenable box (in The Gambia) is evidence of this. They therefore put a high premium on saving.

4.3 SAVINGS SIDE OF MARKETS

One common characteristic of conventional credit programmes was the absence of any importance attached to savings mobilisation and its role in rural financial markets. As the conventional programmes were totally credit orientated and based on assumptions that emphasised the inability of rural people to generate financial flows, this should come as no surprise. Empirical results from studies conducted over the last 40 odd years have, however, highlighted the severe consequences of ignoring savings. Furthermore, uneven flows of funds from governments (and sometimes a termination of government assistance) to specialised credit institutions (the creations of the conventional approach that solely concentrated on supply driven cheap credit programmes) moved these institutions to reconsider their stance on deposit mobilisation. Deposit mobilisation was increasingly considered as a potentially important source of funds (Meyer, 1989).

4.3.1 Saving in context

Saving is both an action undertaken by individuals and an outcome for the economy as a whole. We will concentrate on saving by individuals, rather than the aggregate savings of a country[19]. One should also differentiate between saving and hoarding (Chick, 1987). Hoarding provides no finance, whereas saving is implicitly equivalent to providing finance (as is credit). The role of savings in economic development has two interpretations in economic literature (Deaton, 1993). One school sees saving as the mainspring of economic development, without which there is no economic growth. The other sees saving and growth as being ultimately independent, e.g. the Solow Model (Deaton, 1993). Franco Modigliani followed the arguments presented in the Solow Model and concluded that growth generates saving and not the other way round. Although interesting, this chicken and egg argument could be left here for the time being, as the more important question should be addressed: Why do people save?

Deaton (1993) found that even in developed countries most households save little and accumulate few assets[20]. In the United States more than 30 per cent of households do not have any financial assets, with the median value of financial assets equal to approximately $1 000. In developing countries, one would assume that the same holds true. This indeed was the assumption of the conventional approaches to rural finance. However, experience proved differently. Although households in developing countries would not necessarily save with the objective to accumulate, they will typically hold some assets for precautionary purposes (Deaton, 1993; see Makgetla, 1995, for the same evidence for South Africa). This type of saving is called buffer stock saving. This approach implies that there will be a constant ratio of assets to income, so that savings rate will rise with growth, but with small effect. Modelling on the basis of buffer stock saving showed that a two-point increase in the growth rate might increase the saving rate by half a per cent of income. This is quite low, compared to life cycle savings models (*a la* Modigliani) which predict a four to six per cent increase. The buffer stock models are also consistent with a modest positive interest elasticity of saving. However, these people are primarily driven by precautionary and insurance motives, rather than by the expected yield. Liquidity therefore is the objective, rather than return. Examples are cited where rural people even save at negative rates of interest (Deaton, 1993) or pay people to guard their money (Aryeetey, 1993; Shipton, 1992).

This view challenges some implicit assumptions about saving. If yield is not the motivation, other issues now become more important, e.g. access to deposit facilities, an institution large (or organised) enough to spread risk over more people (compared to a savings club in one village where all members are subject to the same risk), sufficient liquidity and immediate access to personal deposits. If life cycle models are studied more closely it is not clear whether these models could be smoothly transferred to developing countries. In many poor countries people need not provide for retirement, as the custom is that their children look after the elderly. Deaton (1993) concluded that

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[19] The savings activities and choices of individuals and families are one set of fundamental determinants of national savings. The savings of the corporate sector (retained earnings) and the government add to the rest of national savings. Government seems to have the most influence on national savings through its policies and own savings behaviour.

[20] Gersovitz (1988) and Deaton (1990) both discuss the numerous problems with data on saving. They argue that the worst problem with data on saving is that saving itself is not measured directly. It is always calculated as the residual between two large magnitudes, each itself measured with error. Household surveys are frequently inconsistent with national aggregates, and usually understate saving.

enough evidence exists that the life cycle model of saving is not applicable in most developing countries and that enough empirical work has been executed to indicate that the saving to growth story is more applicable than the reverse.

4.3.2 Saving and interest rates

An important consequence of the buffer stock model is the questioning of the correlation between level of interest rates and increases / decreases in savings. Schrieder and Heidhues (1991) positively state that "positive real interest rates clearly affect the form in which financial agents save". However, they also state that the interest rate paid influences the individual's affinity to switch from in-kind to financial savings. Deaton (1993) argues that the response of saving to interest rates is small. He states that poor people are concerned to protect their living standards against disaster, and not much with the rate of return. Rich people, who are accumulating anyway, will allocate their portfolios in response to expected relative rates of return on different assets. They are, however, unlikely to change their consumption in response to a general increase in rates. The Ohio State University empirical work in this regard (Gonzalez-Vega, 1993) is explained to be in support of this argument, but not because of higher interest rates, but due to switching or portfolio reallocation towards superior assets, mainly due to the new availability of these instruments. Deaton (1993) therefore agrees with the Ohio State University findings, but not entirely with their motivation. On the importance of the availability of savings services, agreement is obvious.

Meyer (1989) argues that three factors contribute to the explanation why conventional programmes did not include savings mobilisation. Firstly, the assumption of the poor rural household created the impression that poor people cannot save. Secondly, due to subsidised lending rates attractive savings rates could not be offered, and hence, no incentive for saving was offered. Thirdly, large amounts of donor money were available to financiers, therefore no incentive existed to mobilise their own sources of finance. The second reason, if tested against the arguments of Deaton (1993) now needs to be questioned. It seems that the fact that low rates were offered is no conclusive reason for not providing saving services. Due to the fact that these services were in principle not provided, no access to saving services existed. Subsidised credit by itself therefore did not preclude savings mobilisation.

4.3.3 Saving and financial institutions

The conventional role of the financial intermediary is that of mobilising savings and extending credit. The conventional supply lending strategy ignored the savings aspects of intermediaries and demoted intermediaries to credit agencies. Specialised agricultural credit institutions, therefore, had to survive despite under recovery of costs and inability to generate or mobilise own funds. A sure recipe for failure. Including savings in their funds mobilisation certainly benefits the financial institution in several ways.

Meyer (1989) cites the following benefits:

- The seemingly cheap funds obtained from donor and aid agencies always come with enough red tape and rules to ensure that the extension of these funds will be

extremely costly to the institution. Financial institutions usually have to follow regulations pertaining to the size and type of loans, the amount to lend each borrower, disbursement and repayment schedules and decision rules. When lenders mobilise their own resources, they can develop loan programmes that are more location specific and can be more flexible in their operational activities. In this way they can address the demand for financial services as expressed by their clientele and not as described by a donor in another country. Lastly, institutions dependent on budget votes as a source of income may find these votes turning against them if their borrowers lose political clout, or if government changes, or in times of economic hardship in a country. It is therefore wise to diversify the funds generation portfolio.

- Economies of scope seem to be in operation where financial institutions broaden their range of services. Firstly, the same front-line staff could be used and secondly more information of potential credit clients can be obtained should those clients have a savings record with the institution.
- Borrowing money from an institution that takes deposits from friends, family and neighbours (and even from the borrower him/herself) means that default on loans will directly influence the community, and not a donor agency or taxpayers of another country. Furthermore, if the institution extends loans from deposited funds, and not from some far away donor agency, more care is taken with the screening of applicants and default management. Meyer (1989) mentioned empirical studies that indicate that loan collection efforts are more important than farming income, in explaining loan repayment. The decision-making character of a depositor controlled institution differs markedly from that of a borrower dominated institution (Chaves, 1994).
- More cohesive groups can be formed through group saving schemes. Informal group saving schemes are well known amongst rural people right across the world. By building on this knowledge, financial institutions can provide access to financial services to groups by starting with savings first. The well-known Grameen Bank operates in this way. Slover (1991) indicated that it is extremely difficult to form groups artificially for interacting with financial institutions. Groups generally evolve by themselves and are extremely flexible in accommodating the particular needs of the group members and the group itself. Starting a group with joint savings, brings better cohesion than a group starting solely to get credit.
- Saving contributes to the alleviation of the collateral problem in rural financial markets in developing countries. Saving schemes allow rural people to improve their creditworthiness through the accumulation of financial assets. This is important because most small farmers, especially in Sub-Saharan Africa, lack land title deeds for loan security purposes (Schrieder & Heidhues, 1991). Saving therefore is one vehicle through which rural people can build a capital base. Examples of schemes exist where loans are only extended if the borrower has a track record in a compulsory savings scheme (Mauri, 1983).
- It should be noted that for savings-first institutions, the management of voluntary savings leads to better discipline in the overall management of the loan portfolio.

However, some disadvantages or areas of concern should also be noted:

- A compulsory saving scheme merely increases the effective cost of loans and reduces the size of the loan.
- It is important to highlight the cost of managing a large number of small-savings

accounts: bookkeeping and documentation of daily deposits and withdrawals require a good information management system.

- The risks of managing larger savings or deposit accounts whose withdrawals can introduce great instability on the liability side of the institution are also an important issue.

4.3.4 The potential for mobilising rural deposits

The realisation that saving plays a major role in rural areas is based on both empirical evidence and the application of economic theory. One could question the basis on which the earlier assumption that rural people are too poor to save was made. Empirical evidence on rural savings was scarce, but the theory was available. However, enough empirical evidence exists today to finally prove that the original assumption was incorrect. Several reasons exist for doubting the original assumption (Meyer, 1989).

Firstly, all households save. Whether in small amounts, for short periods or in diverse forms (ranging from financial forms to saving in terms of production kept for later use), the point is they save (Adams & Cavanesi, 1992; Shipton, 1992; Coetzee, 1988; Seibel, 1986; Bouman, 1984; Von Pischke, 1983; Miracle *et al*, 1980). The savings decision in the rural household also lacked proper research and explanation. Recently a few researchers (Low, 1986; Nakajima, 1986) succeeded in presenting integrated household decision-making models, which provided a better understanding of the savings decision in the household. In these models the farming or business firm and the activities of the household are integrated. Thus, decisions on consumption, savings, production and investment are made for all the activities of the household in household context. These entities stand in a complex relationship. Decisions on saving are made within the context of what should be allocated to consumption and production, the existence of saving instruments, the return on savings (note the disagreement between researchers on this issue). The motivation to save rests more on liquidity as a target than on life cycle motivations. Table 4.1 indicates savings propensities of rural people in certain Asian countries. Savings propensities are therefore quite high in rural areas as indicated in table 4.1. Local studies (Spio, 1995; Coetzee, 1988; Cross 1986) also calculated propensities to save, ranging from 0.12 - 0.26, in rural areas.

Table 4.1: Average propensity to save in some Asian countries[#]

Country	Observation period	Average propensity to save	
		Lowest	Highest
Taiwan	1960 - 1974	0.19	0.31
Japan	1950 - 1973	0.10	0.22
Korea	1962 - 1974	0.15	0.33
Punjab (India)	1966 - 1970	0.14	0.34

[#] Average propensity to save is calculated by dividing savings by income. Source: Adams, 1978

Secondly, rural households are heterogeneous in that households of different income levels co-exist next to each other. Some households may experience surpluses while others experience deficits. The majority of informal credit relationships in rural areas originate from this situation. Farmers that produce surpluses become lenders (a way to save). Savings mobilisation also provides an opportunity for rural financial institutions to act as real intermediaries. The majority of these institutions operate in segmented

local markets. This again provides an opportunity for risk pooling for institutions that are able to operate over local borders. Rural areas differ in terms of income generation capacity. Where institutions cover several rural areas in terms of operations funds can be channelled from surplus areas to shortage areas. This is also true for non-financial saving mechanisms. There is, for example, a grain storage system in Burkina Faso (Coetzee, 1992) where surplus producers store grain at depots. (They receive a certificate certifying the mass and price of stored grain). These depots are nationally linked and move grain from surplus to shortage areas. Furthermore, like rural households, rural areas are heterogeneous. Progressive rural areas (those with thriving economies and people) have far better savings and investment ratios than urban areas on average (Meyer, 1989).

4.4 CONCLUSION

Sections two to four serve as background to the rest of this study by illustrating the theoretical approaches that are now used by policy analysts in looking at financial markets. The discussion on the traditional approach and informal finance was presented also to indicate the underlying different points of departure in the conventional formal and informal financial activities. This discussion highlighted issues that will assist in discussing the new views of rural financial markets in the following sections. Although the traditional approach has met with little success, it represents one way of intervention by the public sector in rural financial markets. The new approach is likewise another way of intervention in these markets by the public sector. The basic question that must still be answered is: Should the public sector intervene in rural financial markets at all? Different opinions exist, based on different views of rural financial markets. One school of thought says the public sector should have a hands-off approach to rural financial markets. This viewpoint is motivated by the remarkable ability of the informal financial sector to survive and to serve a wide range of customers. This approach is called benign neglect (Meyer & Nagarajan, 1991) and is also a reaction to the inability of governments to intervene effectively in financial markets (through past programmes).

A second viewpoint is that the public sector should intervene. This is motivated by the lack of integration in financial markets and the fact that in developing countries we are faced with severe market fragmentation. Some people even return to the exploitative moneylender argument, based on more recent information echoing the exploitative side of the moneylender. Another argument is that development and growth of the economy rely on an efficient financial sector, which provides a wide range of financial services. Although the informal market is efficient, it is also limited. It is active in fragmented markets and over time it has not evolved into a developed financial market with the concomitant range of services. Government intervention is needed to bring about development through the integration of markets. This approach therefore concentrates on the constraints experienced with informal finance, and the most widely proposed solutions usually include regulation and supervision of these institutions.

The third viewpoint is a combination of benign neglect and regulation and supervision. This approach includes the imitation of the strong points of informal finance by formal financial intermediaries. It involves the application of group

approaches. Some NGOs have already implemented this approach with remarkable success. The Grameen Bank also favours a group approach and imitates some of the strengths of informal finance (Von Pischke, 1991; Yunus, 1982). These strengths of informal finance usually refer to the comparative advantage of informal financiers in terms of access to information and collateral substitutes. With this approach the linking of formal and informal financiers is promoted, transaction costs are decreased, and financial markets become more efficient. However, few examples exist where this has been the approach over a long term. Most of the NGOs and the Grameen Bank receive injections of donor funds that cover a lot of the overheads. But this approach seems to concentrate on the strong points of different financiers and thus has the chance of being very effective in the longer run. These viewpoints will be discussed further in the following sections. The role of the public sector in financial markets will also be addressed.

5. SUSTAINABLE INTERMEDIATION - FACT OR FALLACY?

5.1 INTRODUCTION

In reaction to the failures of the conventional or supply-led approach to rural credit programmes, new guidelines for considering interventions in rural financial services gained prominence. The Spring Review of Agricultural Credit (Donald, 1974) emphasised the failure of the different programmes being implemented right across the world. After these programmes were considered and failure in many was acknowledged, the attention turned to new approaches. The concept "new approach" needs clarification. The conventional approach was based on the view that economic activity may be a follower of financial services. The new approach does not claim the opposite. The new approach is far more cautionary, is based on lessons of experience rather than uninformed assumptions, and has been implemented in many guises. However, certain base principles are central to the new approach.

The term "new" may in many instances, create the impression of a new innovative recipe to speed up the development of rural financial markets, in order to improve access to financial services in those areas overnight. The "new" of the new approach is, however, a re-emphasis of well-known facets of financial intermediation, rather than a panacea for overnight success. The proponents of the new approach question the base assumptions of the conventional approach, as well as the way in which success was measured. The increasing interest in and role of information in financial markets has been particularly important in revealing the weak points of the conventional approach.

Credit programmes were also, in most instances, applied to non-financial problems (Von Pischke, 1992b). A more integrated approach was under consideration. Questions were raised with regard to the success of reaching target groups, and the lack of differentiation of development approaches with respect to different target groups. Savings emerged as the "forgotten half" of financial services.

The initial emphasis in the new approach was on the well-documented failures of the conventional approach, and thus it took on a reactionary character. However, the development of studies on the role of information, the renewed interest in informal financial activities, the perceived "failure" of the new approach to result in *en masse*

creation of access to financial services for the rural poor and persisting problems in state supported institutions (although most of these were still locked into the conventional approach), resulted in an expansion of thinking under the guise of the new approach. Several questions have now been added to those raised in the mid seventies. Earlier, the reactive approach departed from the premise that institutions matter, that the market must play its rightful role, that the government is "bad" due to its interventionist attitude and that much could be learned from informal sector activities due to their ability to survive the onslaught of forces unleashed in the name of the conventional approach.

This section unfolds against the background of emphasis on the elements of the new approach, without trying to argue that it provides the final answers. This study, and specifically this section, should be seen as part of the journey and not as the destination. The objective is to identify a range of issues and the current thinking on these issues, to inform policy makers and practitioners of the present discussions on rural finance. This is against the background of the discussion in section two (on theoretical concepts), section three (the conventional approach) and section four (informal finance and savings mobilisation). These identified issues will direct the discussion to issues pertinent to South Africa, which forms the second part of this study. Inevitably a range of questions will remain unanswered and a range of new questions will be generated.

The discussion will start with the role of information, and will then discuss interest rates, savings mobilisation and transaction costs. Collateral issues and incentive systems will also be considered. It will further emphasise the role of institutions, and will specifically concentrate on the institutional products of the conventional approach. Risk, supervision and legislation will also receive attention. The emphasis in the last section will be on the measurement of success and failure.

5.2 INFORMATION

Access to information is considered to be a key aspect in lowering the cost of transactions. It follows that in the new approach opportunities to increase information flows should be pursued. Each firm, whether it is an individual or the organisation could decrease transaction costs considerably if it had access to better information. This implies efforts to increase information flows. A bank, for example, may save considerable costs if it provides enough information on products and requirements to prospective clients, to ensure that a client deciding to formally apply for a service has enough information to do the initial screening on his/her own. It will only benefit the client if he/she is in a position to provide adequate information to the bank to promote efficient screening and decision making.

The cost of obtaining adequate levels of information to ensure that transactions will take place prohibits the spontaneous development and integration of financial markets in rural areas of developing countries. This has resulted in disillusionment regarding any possible role for the commercial financial sector in these areas. Thus, too much emphasis on state intervention in the conventional approach led to an overemphasis on the market, which also did not prove to be the complete answer.

The structuring of institutions and the success of branch networks are in a large way reliant on information flows. The conventional approach of structuring decision making around seniority and therefore normally centralising it around top management

in organisations, has often resulted in costly decisions (Ivancevich & Matteson, 1996). The concept of making decisions where the information exists is put forward here. It follows that it also implies a decentralisation of decision making, which will impact on the structure of financial organisations.

5.3 INTEREST RATES

Contrary to the interest rate subsidisation policy followed in the conventional approach, the new approach advocates market-related interest rates. The converse of arguments put forward in section three to argue for subsidised rates is true here. The interest rate discussion must be the most emotional of all aspects relating to access to financial services. This is normally the entry point of policy discussions on rural finance. The approach supported in this study is that a market rate is a relative concept in areas where there are severely segmented and undeveloped markets.

In a system dominated by depositors rather than lenders, the approach would be to structure interest rates to the benefit of depositors (Poyo *et al*, 1993). This means that the institution would levy interest rates to borrowers in such a way that it will maximise income for depositors. In a borrower-dominated institution, borrowers will benefit by lower lending rates. In an area of high competition rates will have a low deviation around the market median. In decentralised financial systems, like the village banks of the Northwest Province in South Africa (Strauss Commission, 1996a), where borrowers are also members and therefore owners of the institution, rates will be levied in a way that does not negatively affect membership and the sustainability of the organisation. The point is that the characteristics of the institution and the market it operates in may impact on what is meant by a "market" rate.

Market rates therefore need to be put in context, with respect to both the specific market and the incidence of institutions in that market. As argued in section three, the supporters of the conventional approach emphasised interest rate levels in most discussions. However, even the low rates in the supply-led programmes did not result in increased access to loans. Access to financial services is emphasised in the new approach. Firstly, it is recognised that the majority of the poor are depositors rather than borrowers. Market rates therefore benefit the majority of rural dwellers. Secondly, it has been shown that small farmers and rural entrepreneurs did not benefit from conventional programmes, as those with lobbying power and the ability to monopolise the cheap programmes hijacked the targeted programmes. Thus a subsidised interest rate is an incentive for those with power to grab the funds. Once again the real target group does not enjoy access.

5.4 SAVINGS IN RURAL FINANCIAL MARKETS

In the previous section the link between savings facilities and credit was discussed. This is one of the major differences between the conventional approach and the new approach. In the conventional approach savings mobilisation was not considered, based on the underlying assumption that rural people are too poor to save. The exclusion of savings facilities resulted in several disadvantages to rural financial markets. Another way to state it, is to view the benefits of the inclusion of savings in interventions in rural financial markets (Meyer, 1989).

Economies of scope seem to be in operation where financial institutions broaden their range of services. In the first place the same front-line staff can be used and secondly more information about potential credit clients can be obtained, should those clients have a savings record with the institution. Borrowing money from an institution which takes deposits from friends, family and neighbours (and even from the borrower him/herself) means that default on loans will directly influence the community, and not a donor agency or tax payers of another country. If the institution extends loans from deposited funds, and not from some far away donor agency, more care is taken with the screening of applicants and default management. Meyer (1989) mentioned empirical studies that indicate that loan collection efforts are more important than farming income in explaining loan repayment. The decision-making character of a depositor controlled institution differs markedly from that of a borrower dominated institution (Chaves, 1994).

More cohesive groups can be formed through group saving schemes. Informal group saving schemes are well known amongst rural people right across the world. By building on this knowledge, financial institutions can provide access to financial services to groups by starting with savings first (see discussion on savings first approaches at the end of the section). The Grameen Bank operates in this way (Yunus, 1982). Slover (1991) indicated that it is extremely difficult to form groups artificially for interacting with financial institutions. Groups generally evolve by themselves and are extremely flexible in accommodating the particular needs of the group members and the group itself. By starting a group with joint savings, better cohesion is possible than when the group starts solely to access group credit.

Saving services contribute to the alleviation of the collateral problem in rural financial markets in developing countries. Saving schemes allow rural people to improve their creditworthiness through the accumulation of financial assets. This is important because most small farmers, especially in Sub-Saharan Africa, lack land title deeds for loan security purposes (Schrieder & Heidhues, 1991). Saving therefore is one vehicle through which rural people can build a capital base. Examples of schemes exist where loans are only extended if the borrower has a track record in a compulsory savings scheme (Hulme & Mosley, 1996; Mauri, 1983).

The argument is followed that the disadvantages of savings mobilisation by rural finance institutions are outweighed by the advantages. However, disadvantages cannot be ignored. Transaction costs are high where small amounts are frequently deposited and withdrawn. The integrity of the agents involves serious risks, which also costs the depositor money. One way of solving this is not to rely only on the credit side to generate funds in an institution, but to charge fees per transaction. As argued in the

previous section, the majority of the rural poor save even at a negative real rate of interest. Their motivation may not be to accumulate but to ensure liquid funds. Observation of the Motswedi Village Bank in the Northwest Province (Coetzee, 1997), that charges R1 per transaction, shows that the same client may visit the bank more than once daily to withdraw small amounts. These clients are willing to pay transaction fees, as they view the carrying of large amounts of cash as too risky in view of the crime level in the specific setting. Their motivations to make use of these facilities are to ensure safekeeping of their funds, and to keep them liquid.

5.5 TRANSACTION COSTS

Ahmed (1989) found that transaction costs for obtaining loans from formal sources are sometimes so high that borrowers prefer informal loans with higher interest rates. Coetzee (1988) showed the difference between variables that can serve as a proxy for the difference in transaction costs between formal and informal sources (see table 5.1). Informal sources in this survey were family and friends, traders, moneylenders and input suppliers.

The difference between the averages represented in table 5.1 serve as an indication of the different levels of transaction costs for both borrowers and lenders in informal and formal financial transactions. These South African results echo patterns found elsewhere.

Transaction costs and interest rates are the most important variables in calculating the ability of lenders to recover costs and thus to stay in business. Cheap credit policies in conventional credit programmes made it impossible for most institutions to recover lending costs, so that these institutions either went out of business or needed frequent re-capitalisation from public sources. Cheap credit policies linked with targeting of loans to the poor resulted in many small, risky loans with resultant high transaction costs per unit. One way institutions try to survive, is to allocate a segment of their loan book to less risky farmers through larger loans, which results in lower transaction costs per loan. Over time the target group gets less of the funds intended for them[21].

Table 5.1: Variables related to differences in transaction costs between formal and informal sources of finance

Variable	Unit	Formal	Informal
Distance to source	km	40	34
Number of visits to obtain a loan	visits	6.4	3.1
Application time	days	60	8
Form of pay-out			
• Cash	%	19	95
• Kind	%	81	5
Interest rates (per annum)	%	12	16
Loans where deposit was requested	%	36	11
Size of loans	Rand	1952	446

Source: Adapted from Coetzee, 1988. Based on survey work in Mpumalanga.

What is the level of transaction costs in rural financial markets? Christodoulou *et al* (1993) surveyed transaction costs of non-government institutions in South Africa and

[21] See the earlier note on Gonzalez-Vega's (1983) Iron Law of Interest Rate Restrictions.

found they varied from 16 to 20 per cent of the loan amount. Most of their examples however were from urban based institutions that could have resulted in an under estimation of transaction costs compared to rural circumstances. Meyer and Cuevas (1990) cited the following reasons for high transaction costs: degree of development and maturity of the financial system, the nature and extent of transport and communication facilities available, and the efficiency of legal systems. The nature and extent of financial regulations also affect intermediation costs and subsidisation of interest rates for targeted borrowers raised the costs for non-targeted sectors.

Institutions operating in rural financial markets can decrease transaction costs in several ways. Meyer and Cuevas (1990) mention the following possibilities. Most important, the economic environment - several types of improvements are possible such as improved communication and transportation systems (note the importance of information systems for the screening of prospective clients); improved marketing information services to farmers and improved agricultural production based on the availability of sufficient support services to farmers (Singini & Van Rooyen, 1993). These will result in fewer risky farmer clients and thus a less risky environment for financial transactions. Transaction costs can also be decreased by improved banking regulations[22]; reduction of risks; diversification of services provided by financial institutions; expanding the banking network; group based schemes; improved internal operations; and linking informal finance with formal finance.

The bottom line is that transaction costs are one of the crucial variables in any institution and any financial market. The cost of information, risk and inefficiency is reflected in transaction cost levels.

5.6 COLLATERAL ISSUES

Conventional methods of collateral do not succeed in broadening access to loan products in rural financial markets. The majority of rural borrowers cannot provide collateral required for secured lending, as they do not have the assets. This means that lenders have to resort to unsecured lending, that is, in the conventional sense. Unsecured lending depends on the lender's detailed knowledge about the borrower's ability to honour the loan contract (Yaron *et al*, 1996). The essence of unsecured lending is access to information on the borrower. It is often more expensive to accumulate appropriate information than to resort to securitised lending. This is especially true for formal institutions operating in rural areas. These institutions normally do not have the appropriate information on potential clients and therefore revert to conventional collateral requirements, mostly in the form of physical assets, and preferably in the form of land (with a title deed).

In addition to unsecured lending (by relying on adequate information about the client) lenders also make use of collateral substitutes. The group approach is a good example of a collateral substitute. Linking different markets may also serve as collateral substitute. For example, the sugar mills in South Africa provide inputs to their small millers who deliver cane to them. They subtract the amount paid from the proceeds of

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[22] One example of legal constraints on financial institutions is the restricting nature of the South African Banking Act which controls the provision of deposit taking to such an extent that only established and large formal institutions are legally entitled to provide this service.

the farmer's cane deliveries. Yaron *et al* (1996) site several examples of substitutes, one being the custom to follow non-paying debtors dressed in yellow canary suits ("Canarios" of Costa Rica) to publicly humiliate them.

The lack of collateral itself is also aggravated in many countries by the inadequate institutional and legal framework (Besley, 1992). Thus contracts cannot be enforced and even where collateral is pledged the asset cannot be transferred to the lender on borrower default (Migot Adholla *et al*, 1991). This is one of the disadvantages of using physical assets as collateral. It is only an efficient measure where there are efficient legal systems and where legal contracts are enforced. The stability of markets and minimum interference of the government in economic activities are also important. In instances where land was used as collateral and land prices decrease suddenly one often finds collateral values decreasing rapidly, changing secured loans to unsecured loans overnight. Where many financial institutions try to call up collateral in these instances it may impact on further decreases in overall land prices and therefore increases in unsecured lending.

It seems that information is the essential conventional collateral substitute. Institutions would therefore benefit by investing in innovative ways to ensure better information flows, rather than to rely on conventional collateral measures only. This also ties in with the concepts of emulating informal financial activities (group approaches) or linking informal and formal activities in the market.

5.7 INCENTIVE SYSTEMS

It is now widely recognised that a successful rural finance delivery system will provide some of the incentives for successful rural development. Financial intermediaries should therefore provide a system incorporating not only incentives, but also penalties to users in order to influence the way in which rural people use financial services. Users must receive appropriate market signals, i.e. principally in the form of positive real interest rates. The rural financial system should also be designed to provide incentives to public and private sector institutions, as well as institutions from civil society, to behave in ways that further the aims of economic development. This includes incentives as well as penalties for the staff of rural financial institutions who need to ensure that they meet the needs of all rural people.

Incentives are relevant for all actors in the market. In the conventional approach subsidised interest rates provided incentives for powerful actors in the market to divert the flows of funds from the target clientele, the small farmers. In this instance, the incentive (subsidised credit) had unintended consequences and resulted in grants to the rich. Positive interest rates serve as an incentive for borrowers to be more efficient; negative rates do not (Von Pischke, 1991).

Incentives should have positive outcomes, for example, one incentive used is the discount on interest rates after full on time repayment. Hulme and Mosley (1996) argue that one way of providing the borrower the "benefit" of subsidised rates without the disadvantages, is to provide the subsidised rates in the way of a rebate after full repayment of a loan. They list a range of incentives and the institutions in which they are applied (see table 5.2).

Table 5.2: Illustrative range of incentives based on a survey of 12 institutions	
Incentive type	**Used by percentage of institutions surveyed**
Intensive supervision	58
Peer group monitoring	67
Borrower rebates	17
Agency staff incentives	42
Progressive lending	58
Compulsory savings	75
Source: Adapted from Hulme and Mosley, 1996.	

Incentives at the client level should also be supported by measures that ensure appropriate behaviour by the staff of the financial institutions. Incentives to ensure good client behaviour should thus link with incentives that ensure that staff would emphasise those activities of clients which contribute to efficient institutions. Providing a bonus for reaching client volumes may be efficient in terms of reaching the target numbers of clients, but provides no assurance on the quality of the book. Staff incentives linked to repayment rates and savings mobilisation emphasises those variable contributions to sustainable institutions. Combined with incentives to decrease transaction costs these can be an effective combination of positive incentives.

5.8 INSTITUTIONS AND THE NEW APPROACH

Financial intermediation for banks and clients is more difficult and costly in rural than in urban areas because of three inescapable rural characteristics (Coetzee *et al*, 1996):

- Spatial dispersion and the associated high information and transaction costs;
- specialisation of rural areas in a few economic activities linked directly or indirectly to agriculture, which exposes rural clients to the vagaries of nature and leads to covariance of their incomes; and
- Seasonality of production with its accompanying sharp and opposite fluctuations in the demand for credit and deposit services.

If a rural bank operated in a single small area such as a group of villages, it would be able to reduce the information and transaction cost problems associated with spatial dispersion sharply. However, covariance and seasonality would force it to operate with a large reserve ratio. A high reserve ratio requires large intermediation margins to make such rural banking profitable. Rural financial institutions use three ways to reduce the impact of covariance and seasonality on reserve requirements. Firstly, they diversify their client base and loan portfolio out of agriculture into agro-processing and other rural non-farm enterprises. Secondly, they link their operations to the urban economy through financial markets or by integrating the rural operations into a branch network that includes urban locations. Thirdly, they set up inter-regional risk pooling mechanisms *via* networks or federations of individual rural financial institutions.

But interregional links, whether through branch banking, federations, or other risk pooling devices, still face special difficulties in supervising and monitoring operations of an individual rural branch or office. These difficulties are associated with the distance and fluctuations in branch performance that are induced by seasonality and covariance. Rescheduling of the debt of rural clients within a particular zone is

occasionally required in order to tie them over years of bad crops or bad prices. This leads to opportunities for clients to collude against a single local institution, a branch, or an entire system, which further increases the supervision problem.

Specialised farm credit institutions, the mechanisms of the conventional supply-led approach to rural credit, are especially poorly adapted to the difficulties associated with rural finance. They typically do not diversify their client base and portfolio inside the rural areas. They usually are not integrated into larger institutions with urban operations and have limited urban diversification and risk pooling opportunities. Even with inter-regional risk pooling they remain vulnerable to major droughts affecting an entire country or to international commodity price slumps.

"Why are specialised farm credit institutions founded in low-income countries, and why do they frequently flounder?" were questions posed by Von Pischke (1978). Added to these inherent difficulties associated with specialised farm credit, institutions have often been used by states as conduits for carrying out agricultural and social policies, such as compensating the farm sector for excessive taxation of agriculture and urban bias. This has led to a lack of autonomy. It is this lack of autonomy that has crippled these institutions rather than state ownership *per se*. In effect, financial markets were used to allocate subsidies, rather than fulfil their role of efficient allocators of finance (Adams, 1992). Because government has pursued social and agricultural policy objectives *via* rural financial institutions, these institutions have been particularly vulnerable to collusion by their politically organised clients. Using specialised financial institutions to compensate farm sectors or pursue social objectives has mostly been futile. All the participants in the agricultural sector suffer from bad policies, bad prices or bad weather, however only a minority of better off clients have access to credit and therefore received "compensation".

5.8.1 The pendulum swung

The realisation of this state of affairs necessitated a re-look at the way rural financial markets are approached. This started with the publication of the USAID sponsored Spring Review of Agricultural Credit Programmes (Donald, 1976). In the period following the mid seventies the donor agencies tended to ignore the specialised farm credit institutions that they had created as part of their earlier effort to throw money at development problems. The market was rediscovered and these institutions, being supply-led in nature, obviously did not meet the requirements of the so-called new approach to rural finance. In the new approach a few basic rules changed:

- Savings were seen as important: It was realised that most poor people did not make use of credit and saved in some liquid form to serve as a reserve to be applied for consumption smoothing due to income shocks.
- Transaction costs were given more attention and the realisation dawned that the frictionless market of the neo-classical school is somewhat removed from reality.
- Information flows and risks inherent in asymmetric information situations were highlighted.
- Institutions mattered as sustainable services to poor clients were impossible without sustainable institutions. This unlocked research on all aspects of institutional sustainability.

- Financial markets were treated as markets and not as conduits anymore.

Unfortunately, in the mad rush towards the market the specialised credit institutions were sidelined. Recently, the realisation dawned that in countries with a weak private sector these were the only institutions providing services in rural areas, albeit within a skewed policy framework. Even where the private sector has a more prominent presence, it still is not willing to provide services on a broad basis in rural areas. The attention is now shifting back to these institutions, however not yet in the case of the major development finance institutions such as the World Bank.

5.8.2 Restructuring of specialised credit institutions

The latest approach on a possible role for specialised credit institutions can be illustrated with the following discussion drawn from the work of Graham (1995)[23]. Attempts to restructure credit institutions must recognise the high social costs and rent seeking behaviour of many of these institutions - qualities that characterised the performance that left many of them insolvent in the 1980s. Any restructuring plans should recognise that institutions that specialise in farm finance are frequently candidates for failure since they do not diversify risk in their portfolios (thus high incidence of covariant risk). Hence any reform of agricultural development banks must accept the fact that they should be less agriculturally oriented than in the past.

Much of what follows distils the experience gained in reformed state banks in South East Asia (Yaron *et al*, 1996; Yaron, 1992). "Banks fail because of bad policies, poor banking practices and weak institutional frameworks" (Sheng, 1996). This statement was made regarding commercial banks in developing countries. If we add to these reasons all the additional ailments of state agricultural banks, it is clear that restructuring becomes a formidable task. The question is how to reorganise these institutions so that they do not fall prey to the same vices that largely destroyed their usefulness as financial institutions in the past. Restructuring should attend to the following (Strauss Commission, 1996a; Graham, 1995;):

- **Role of government, clarity of role and functions, and political commitment**

Experience shows that government is rarely successful when it tries to engage directly in financial markets. However, government should provide an environment that is conducive to the development of financial markets and set the operational framework for financial institutions that use public funds. Day to day political interference is detrimental. Political support and objectives must rather be embodied in the institution's purpose and policies. Operational autonomy is then the only approach that can be considered.

- **Autonomy and governance**

This implies protection against political intrusion, which in turn requires a Board of Directors in which no government official is the chairperson, on which no elected officials should serve, and where members drawn from the private sector carry more weight than those drawn from the public sector.

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[23] The rest of this section is drawn from the work of Graham (1995). Graham and Von Pischke (1995) were of the first researchers to question these extremes in approaches to rural financial markets.

- **Flexibility**

As different circumstances prevail in different countries and even within countries institutions should be allowed the flexibility to focus on local circumstances, provided that they do so within a coherent framework.

- **Minimising systemic (DFS) and institutional (individual DFI) risk**

The prudent management of systemic risk requires that financial institutions manage diversified portfolios. The stability of the development finance system depends on development finance institutions spreading risk across different types of clients, different sectors and/or different geographic areas. The high potential for covariant risk, especially where institutions are locked into serving one sector (for example agriculture), should be mitigated by diversifying portfolios.

Sound management information systems are critical to minimising institutional risk. DFIs must have accurate, timely and reliable financial information to be able to plan and measure performance and impact under various sectoral conditions and in dynamic financial markets and to take early, appropriate corrective actions. To the extent that DFIs make use of public resources, they need to comply with and report on the basis of specific standards, codes of conduct, disclosure and information requirements.

- **Mobilising financial resources**

Commercial principles are essential to the financial and fiscal soundness of a development finance system. Innovative approaches to the mobilisation of funds to ensure less reliance on government contributions are needed. This could be achieved, for example, by an institution that has a strong deposit base, offering a wide range of deposit facilities throughout its branch network. The matching of financial instruments on the mobilisation and application side is part of a sound approach.

- **Capitalisation**

Initial re-capitalisation should be done by the government (if necessary), with additions to capital limited to retained earnings and sales of shares to the public. The institution's charter should specify its minimum capital ratio (for example for a financial institution).

- **Allocation of resources**

DFIs should preferably function on the basis of pinpointed financial market failures and should design and use appropriate risk-sharing arrangements to maximise private sector financial involvement. They need to develop innovative financial mechanisms to address neglected or emerging markets (for example, the venture capital market).

- **Loan policy**

Interest rate policies should be designed so that the DFI does not crowd out private sector involvement. An emphasis on portfolio diversification is appropriate, especially in rural areas, where non-farm rural enterprises should be regarded as just as important as farming enterprises, in order to decrease risk exposure. Explicit targeting should be avoided. Commercial short-term overdraft facilities should be incorporated into the loan portfolio to balance medium-term lending, along with remunerative government treasury bills up to a specified portion of its financial assets. This gives the institution the means to manage both risk and liquidity.

- **Staffing**

A DFI requires an efficient employment policy of creating the right potential capacity, where no government interference is allowed in terms of placements and termination of employment, within acceptable national norms and rules as espoused by the national labour legislation.

- **Decentralisation and incentive measures**

Branches should be small. Decentralised decision-making should prevail at branch level. Performance based remuneration and related bonus schemes should prevail for branch managers and relevant loan evaluation and collection personnel, based on criteria such as the number and volume of loans, loan recovery, and deposit mobilisation. Bonus schemes should only be triggered after meeting a high loan recovery standard. Transfer pricing incentives would be required to reward deposit mobilisation beyond that used to fund local loans. DFIs should furthermore provide the appropriate incentives and penalties to align the behaviour of their users with market signals and principally real interest rates. Client-responsiveness is also closely related to incentives and penalties.

- **Transparency**

State-owned institutions, especially financial institutions, should be at the forefront of disclosure. Accountability should include quarterly and independently audited annual reports issued to the public, specifying financial conditions truly and fairly. Reports should include balance sheets, income statements, source-and-application of funds statements, and additional tables showing the ageing of loan arrears by loan type, write-offs, reserves and the market value of the investment portfolio. Income should be realised only in cash rather than including accruals. Expenses should include accruals. Most importantly, subsidy dependence indexes should be carried out yearly and must figure prominently in all annual reports. Price differentials between market prices and the pricing policy of the institution should be included in reports.

Large exposures and large defaulters should be listed by name and not afforded the confidentiality that is appropriate for private banks and their clients. Likewise, loans to directors, officers, staff and family members should be disclosed.

Specialised government supported institutions should clearly differentiate between those activities they execute as an agent for government and for which government should pay them, and those activities on which they should achieve full cost recovery.

- **Co-ordination**

Experience suggests that the most efficient development impact is generally achieved where development investment occurs within a coherent and economically sustainable framework. This requires linkages between aspects like marketing and production and between investments in, for example, physical and social infrastructure. It also requires co-ordination between different state supported and owned institutions to ensure that no duplication of efforts and subsidies exist and that programmes are being executed comprehensively.

- **Donor support (external)**

Donations (where received) should generally not be used to fund loans, but rather to build up human capital to manage credit risk intelligently. Important here is the implementation of a management information system that permits the tracking of loans

on a weekly basis. Thus training, technical assistance and judicious support for computerisation are appropriate. Some of the institution's own funds should be committed to these endeavours as well, to ensure continued investment in management information systems upon donor withdrawal. Support should also not be directed at institutions, but at a sector. Therefore the same assistance should be possible through other institutions serving the same clients.

If such an institution performed well, it could offer through its extensive rural branch network a range of deposit and savings services for the poor (as legitimate a demand as for loans) far better than many NGO programmes (Graham & Von Pischke, 1995). Moreover portfolio diversification and extensive branching would alleviate the covariant risk associated with site specific unit banks or limited reach NGOs. These institutions can serve an agricultural clientele that is rarely included in NGO portfolios. Reformed state-owned banks should be in a good position to serve the input suppliers and output buyers at the wholesale level who play such an important role in lending downstream to micro-entrepreneurs. In short, these banks could positively shape the market environment within which micro-enterprises operate. In the end reformed rural development banks and NGOs (as well as other financial service providers) could complement each other in rural areas.

These reformed institutions would clearly not expand as rapidly as in their heyday of irresponsible portfolio growth. However, it is important that agricultural producers be relieved of any price penalisation and indeed benefit from well-designed government investments in human capital formation, agricultural research and related support services. Otherwise there will be an unfortunate tendency for policy makers to resort to subsidised credit through development banks as a convenient substitute for their failure to provide these services. In short, a threat will always exist for donors and the government to re-colonise these institutions with targeted loan programs and a political agenda, however, this is less likely in countries with intelligent agricultural support services and appropriate price policies (Graham, 1995).

5.9 LEGISLATION, REGULATION AND SUPERVISION

In most developing countries inadequate legal structures result in decreased transactions and inefficient market operation. This is especially true with respect to legislation regarding financial transactions. Direct and indirect legislation makes it difficult for lenders and borrowers to interact, especially between the formal and informal sector (Yaron *et al*, 1996). The challenge in terms of legislation, regulation and supervision is how to bring about good institutions. Successful institutions will lower transaction costs and increase efficiency in economic exchange. They are based on clearly defined property rights and uncomplicated contract enforcement. This, in turn, is only possible if the correct information is available and the legal system is amiable. Thus two tests are evident: are property rights secured, and is the rule of law enforced (Beghin & Fafchamps, 1994). In essence we are looking at clarity in terms of benefits of programmes and enforceability of the law related to these programmes.

In financial markets lenders and savers need recourse to the law. Lenders need a system in which claims against property can be created, established and enforced (Yaron *et al*, 1996). The more efficient this process, the more willing lenders will be to enter into contracts with borrowers. In many instances smallholders are not in a

position to provide collateral in the form of property. Here other methods of collateral need to be investigated (see section 5.6 for a discussion on collateral substitutes). Legal reforms to ensure that lenders have efficient recourse to law benefit all other transactions, not only financial transactions.

In the new approach savings mechanisms are emphasised. The rediscovery of the "forgotten half" of rural financial markets necessitates that legislation that protects depositors be investigated. This also opens up the whole notion of the regularisation of non-standard banks. In many countries specific legislation is drafted to accommodate non-standard banks. For example, in several countries including America and Canada, specific legislation caters for credit unions (Sheng, 1996). The guideline emanating from the discussion is that consumer protection is important, though not at such a level that it dampens the functions of the financial market. The challenge therefore is how to structure legislation to protect and facilitate the functioning of the market and facilitate entry into the market.

5.10 RISK

In section 5.8 reference was made to the risk inherent in the whole development finance system and within specific institutions. Development finance system[24] risks impacts on all development finance institutions. The institution specific risk is of more importance for this part of the discussion. While the most visible dimension of banking is the intermediation of funds, the intermediation of risk is the most invisible activity taking place at the same time. Intermediation between depositors and borrowers cannot take place without a simultaneous intermediation of risk (Von Pischke, 1992b).

If an agricultural bank was operating in a specific, small geographic location it would be able to reduce information and transaction cost problems normally associated with spatial dispersion. However, covariance and seasonality would force it to operate with a large reserve ratio. Rural financial institutions can take various measures to reduce the impact of covariance and seasonality on reserve requirements by:

- diversifying their client base and loan portfolio out of agriculture into agro-processing and other rural non-farm enterprises;
- linking their operations to an urban financial market by integrating the rural operations into a branch network which includes urban locations;
- setting up interregional risk pooling networks, thus spreading the risk over wider geographic areas.

In the process of restructuring conventional agricultural banks these options should be considered.

5.11 FINANCIAL TECHNOLOGIES

In essence the experience under the new approach can be classified into projects or programmes that use savings first or credit first approaches and those that provide services to individuals or to groups (or to both). The real test for efficient strategies is

[24] The system that the government of a country structures to solve market and government failure (see chapter seven for a more detailed discussion).

whether a correct assessment of prevailing circumstances in the project area leads to the application of the appropriate financial technology. In this section short overviews will be provided on the savings first, credit first and group approaches. An understanding of these approaches is essential when applying policies differentiated according to the circumstances in specific settings.

5.11.1 Savings first approach

The savings first strategy indicates that a financial intermediary provides savings facilities before engaging in loan activities. The first observation is that any intermediary using this strategy grows much more slowly than one using a credit first strategy (Graham & Von Pischke, 1995). Several variants of the savings and credit co-operative (or group based) venture serve as examples of institutions following this approach, including savings and credit associations, credit unions, co-operative banks, and in a much more informal version, savings clubs and burial societies (Coetzee, 1988).

Graham and Von Pischke (1995) argue that the savings first strategy is time consuming in that quite some time is spent in initiating these activities. However, village level activities benefit from a wealth of information on members and potential members. Earlier we also argued that poor rural people have several incentives to save and that savings propensities in rural areas are normally relatively high (see the discussion in section 5.4). Group based savings activities may, therefore, take longer to build volume when starting at the village level, but the institutional base is normally strong and sustainable.

The problems inherent in credit first strategies (see next section) centre on issues of moral hazard and principal agent problems. These problems are very uncommon in savings first strategies, though they do occur. Hard earned money deposited in savings accounts have often vanished among the management or staff of financial institutions. These problems are not common in member managed and operated village based settings.

Some other disadvantages are present in savings first strategies (Schmidt & Zeitinger, 1995). Firstly, it can be costly and demanding to manage a large number of deposit accounts, especially the high turnover of accounts without fixed maturities for small savers. One way to decrease these costs is not to try and recover purely on the differential between return on deposits at commercial banks for the institution and what depositors earn (in the beginning phase), or the spread between interest income on loans and interest paid on deposits in later phases. Charging a fee for each transaction can generate income. In the village banks in South Africa this is common practice (Coetzee, 1997). Secondly, depositors are at great risk in institutions that are not capable of managing their funds carefully. Emphasis should be on starting small and being member driven. Graham and Von Pischke (1995) argue that where these institutions increase in size to numerous members, each with a small account, it is not in the interest of any one small group of savers to incur the transaction costs of organising themselves to monitor the management of the institution. This problem has manifested itself from time to time in credit unions in which the one-person-one-vote ownership principle, regardless of the ownership of shares or deposits held, weakens the vigilance of the widespread ownership base (Chaves, 1994). In short, there are

trade-offs between the virtues and the costs and limitations of the savings first path to institutional development. However, experience indicates that if these institutions operate with high member involvement and the ability to reach second and even third tier organisation, they can become formidable financial institutions. One example is the German co-operative banking system, which grew over a period of 100 years to 2600 co-operative banks which have 19500 outlets and formidable assets and are organised at the second and third tier level (DGRV, 1996).

As a general rule, a savings first approach is preferable to other approaches in order to encourage self-reliance and to lead people to become more independent (Gentil, 1993). This should not be a dogmatic rule, however. In certain circumstances (for example a prevailing climate of distrust where there were earlier failures in the financial system and people lost savings) and for certain social categories and spatial settings (the real destitute and poor, especially women in this category) there is every justification for starting with credit or providing both credit and savings services. The lesson is that dogmatic rules lead to the application of inappropriate models in certain settings.

5.11.2 Credit first approach

Credit-first strategies are common in NGO and specialised credit institutions. These programmes are mostly funded by outside donors and governments. Credit-first programmes expand much more rapidly than savings-first as they avoid the time-consuming task of first mobilising local savings (lending is funded externally) and frequently employ group loans as part of their lending technology, thus multiplying the clientele (Graham & Von Pischke, 1995).

In contrast to savings first strategies credit first strategies are riddled with moral hazard problems. These institutions are mostly financed and operated by external agents without the benefit of adequate local information flows. They cannot use the local social structure to monitor clients. Historically (as was argued in section three) major default situations arose in these institutions due to the cold money/warm money syndrome[25] (Gentil, 1993).

Programmes addressed moral hazard by designing contracts that reduce opportunistic or irresponsible borrower behaviour (Graham & Von Pischke, 1995). This has been done typically in three ways: using local agents, employing local people as loan officers and using a group based strategy. In the case of local agents and employing local people as loan officers the institution would want to ensure that their remuneration and incentive packages are structured in a way that will decrease moral hazard amongst the staff (or agents).

5.11.3 Group approach

[25] "Warm money comes from the farmers themselves, is controlled by them and seen by them as deserving careful husbandry…cold money is money from the state or foreign financiers, which can therefore be used for unauthorised purposes or need not be repaid. Defaulting on cold money loans is considered a cunning thing to do and is not frowned upon by other farmers" (Gentil, 1993).

Group approaches are based on informal group based financial institutions and have been popularised by the Grameen Bank in Bangladesh (Yunus, 1992). Groups are essentially utilised to decrease information problems and decrease transaction costs of rural financial intermediation (Huppi & Feder, 1990). Decreasing information problems also decreases the incidence of moral hazard. It follows that the group approach was favoured in credit-first strategies. Group approaches are also applied as a collateral substitute, once again based on the flow and availability of information in the group.

There is wide difference of opinion on the relevance of group approaches *versus* individual approaches. In developing countries these two kinds of lending arrangements have a mixed record. This is especially true in Africa. Graham and Von Pischke (1995) summarise the following lessons in this regard:

- Group lending in the Grameen Bank was built on a strong investment in group formation and substantial investment in recruiting committed and well-trained staff before lending began. None of these human capital investments have been strong in African programmes. One of the more important obstacles in the African programmes is the very high cost of scarce trained personnel compared to Bangladesh where an ample supply of low cost university graduates has been available for the Grameen programme from the beginning.
- Migration is more prevalent in rural Africa, creating more unstable groups, particularly those with male members.
- Weekly or fortnightly repayment schedules are established to generate frequent meetings for the interaction and discipline required to maintain group cohesion and regular repayments. This does not always fit into the cash flow patterns of agriculture. Hence groups made up of farmers in the African programme encounter difficulties. The risk of cash flow interruption is too high as farm groups suffer from covariant risk and the transaction costs of managing a spatially more dispersed clientele are also high. Group lending programmes built on micro-enterprise activity in towns have generally been more successful.
- Joint solidarity has its limits. Once members in a group have made up for the shortfall of their delinquent members on two or three occasions the group collapses on the next default. Intra-group solidarity has been compromised frequently by free riding behaviour. Given the high prestige elderly women enjoy in African villages, it is next to impossible for younger women in the group to deny them group membership or exercise peer pressure or threaten group sanction, against these economically inactive elderly members who delay or refuse to repay their debts. It only takes two or three episodes of this free riding behaviour to destroy the group.
- A common misconception of Grameen replications in Africa lies in the confusion with joint liability that is incorrectly associated with the Bank's institutional design. The Grameen Bank uses group solidarity principles to select, shape and train groups of five clients; however, it merely uses the group as a vehicle to make individual loans. Moreover, in the event of individual borrower delinquency, contrary to conventional wisdom, group liability is not triggered to draw the other members into covering this shortfall. Instead, a contingency fund, built up through an extra charge on each loan, is used for this purpose. In many of the African programmes such as in Burkina Faso, however, the other members of the group are immediately expected to make up for the delinquent borrower's payment. This

leads to acrimonious relationships among members and their families. Instead of group solidarity, this leads to sporadic peer pressure with problematic results.

- The practice of holding other groups in a village (i.e., a sector) responsible for the failure of a delinquent group is followed in many programmes, expanding the group solidarity concept into a broader neighbourhood or village sector solidarity strategy. This has frequently proven counterproductive as groups who are current on their loans resist covering for delinquent groups with whom they may feel little solidarity. When this occurs programme directors cut off the credit flows to groups current in their payments to induce them to make up for delinquent groups. This only trigger wholesale delinquency, a testament to the law of unintended, but highly predictable consequences, from the perverse incentives built into this particular group lending institutional design.

Huppi and Feder (1990; Slover, 1991) indicate that successful group lending schemes are difficult to replicate due to the area and group specific characteristics of each group. Graham and Von Pischke (1995) refer to the least documented and least known "black box" of group lending, that is the nature of the group dynamics within these programmes. How does one operationally define and empirically measure such important but slippery concepts as group homogeneity, group solidarity and, in the absence of group solidarity, peer pressure? Answers to these questions could contribute to better institutional design and the measurement of programme performance for group lending programmes.

5.12 DECENTRALISED FINANCIAL SYSTEMS

The specialised farm credit institutions of the past were mostly operated out of the head office and limited branches, thus in a centralised way. After the obvious failure of these institutions to reach rural areas and provide access to financial services for rural people a new institutional form made its appearance. This is the decentralised financial system characterised by its independence from government programmes, small size, closeness to end borrowers and a bottom-up approach to develop pyramid shaped structures (Kabore, 1993). Decentralised financial systems, whether they are in the form of the German Raffeisen Co-operative Banking Network, the Credit Union Movement, the Grameen Bank systems or groups, or whether they seek to correspond as closely as possible to traditional grassroots organisations, are generally found to accommodate two concepts which are a good combination of development and banking thinking (Humbert, 1993).

The essential characteristic of real decentralised systems is that they are co-operative in nature. Their members own them and they grow out of necessity rather than grand design. The concept "decentralised finance" comes in many guises, as argued earlier. In addition to those examples the role of NGOs at village level could also be construed as a decentralised approach. However, very few NGOs succeeded in reaching an essential requirement of the decentralised approach, i.e. being owned by local people and being able to replicate and eventually combine actions in a second tier organisation. Many researchers (Strauss Commission 1996a, 1996b; Ellsasser & Nguyen, 1995; Schmidt & Zeitinger, 1995) have documented the poor record of NGOs in general in rural financial markets (with singular exceptions). Decentralised financial services are highlighted as a specific strategy to increase access to rural financial services. The

concept of self-empowerment is at the heart of informal finance, although informal systems are in many instances locked in specific spatial settings[26]. In the decentralised finance concept external facilitation and assistance are accepted. Internal control and operations are nonetheless non-negotiable principles. The aim is to build networks of self-help organisations, and where possible link these to the formal sector (if an efficient formal sector exists). This concept is not new and is being applied in other settings (Tendler & Freedheim, 1994)..

5.13 MEASUREMENT OF SUCCESS

The conventional approach had a central theme of trying to influence decision-making of small farmers by providing cheap credit. It follows that the measurement of success in the conventional approach was based on the number of farmers that were reached with credit. In the conventional approach measurement programmes lost interest after this stage. Thus no emphasis was placed on repayment and providing continuous services to clients. As argued earlier, the new approach emphasises institutional sustainability and development impact. Institutional sustainability also serves as a proxy for clients' access to services. Thus a successful institution should indicate continued access to financial services to clients. This is not entirely true, as sustainable institutions do not necessarily imply that the intended clients have access to the services of the institutions. Thus the dual emphasis on sustainability and outreach. Sustainability and outreach can be measured by applying the range of measures as illustrated in table 5.3.

Table 5.3: Indicators for measuring efficiency in rural financial institutions.

Outreach indicators	Productivity indicators	Profitability indicators (%)
Number of branches	% loans in arrears (volume)	Return on assets
First year of operation	Loans/staff	Interest earned/aver. Portfolio
Non-financial services	Volume lent/staff	Gross financial margin
Deposit accounts	Loans/loan officer	Non-int. expenses/Ave. portfolio
Average deposit size	Volume lent/loan officer	Accounting profit index
Number of loans outstanding		Typical deposit rate
Average loan size		Typical loan rate
Agricultural loans outstanding		Subsidy Dependence Index
Average agricultural loan size		Implied average loan rate

Source: Strauss Commission, 1996a.

The indicators in table 5.3 covers outreach aspects and links outreach and sustainability. It also highlights the concept of subsidy dependence, which is embodied in the application of the Subsidy Dependence Index (SDI) (Yaron, 1992). This will be discussed in detail below.

5.13.1 Sustainability and the Subsidy Dependence Index[27]

The SDI concept aims to provide an objective assessment and measurement of a specialised credit institution's financial performance. This involves taking account of

[26] Von Pischke (1991) mentions examples of informal systems that provide services across country borders.

[27] This section draws on the work executed for the Strauss Commission (1996) by Jacob Yaron.

the total cost of operating a development finance institution (DFI), including the actual value of all subsidies received. Subsidies are calculated both in economic and financial terms. This in essence makes it a unique measurement as very few (if any) of these measurements incorporate both financial and economic indicators. It is important to note that the SDI measures inflows of all subsidies into the organisation, but does not in any way make a judgement on the application of subsidies. The SDI is not the only measurement of sustainability, however, it incorporates most other measures and it identifies subsidy flows both in economic and financial terms (Graham & Von Pischke, 1995).

As an analytical tool, the SDI assists in placing the total amount of subsidies received by a DFI in the context of its activity level as represented by the subsidy received, measured against the interest earned on the loans extended to its targeted clientele. It can also be applied to measure a DFI's subsidy dependence over time, thereby using the SDI methodology as a planning and monitoring tool. Another application is as a comparison between the subsidy dependence of different DFIs providing similar services to largely the same clientele.

The SDI calculation

The SDI is a ratio that measures the percentage increase required in the average lending rate to compensate a DFI for the elimination of all subsidies in a given year, while keeping its return on equity equal to the market reference deposit rate. The index assumes that an increase in the lending rate is the only change to be made to compensate for the loss of subsidies.

The annual subsidy received by a development finance institution is defined as:

$$S = A (m-c) + \{(E \times m) - P\} + K$$

where:

S	=	the annual subsidy received by the institution;
A	=	the concessional borrowed funds outstanding (annual average);
m	=	interest rate the institution would be assumed to pay for borrowed funds if access to borrowed concessional funds were eliminated (generally market reference deposit interest rates, adjusted to reserve requirements and the administrative cost of mobilising and servicing these deposits);
c	=	weighted average annual concessional rate of interest actually paid by the institution on its average concessional borrowed funds outstanding;
E	=	average annual equity;
P	=	reported annual profit before tax (adjusted, when necessary, for loan loss provisions, inflation, etc.); and
K	=	the sum of all other annual subsidies received by the institution (such as partial or complete coverage of the institutions' operational costs by the state).

The subsidy dependence index is then calculated as follows:

$$SDI = S/(LP \times i),$$

where:

SDI	=	subsidy dependence index of the institution;
LP	=	average annual outstanding loan portfolio of the DFI;
I	=	weighted average on-lending interest earned on the DFI's loan portfolio.

A SDI of zero means that the DFI has achieved financial self-sustainability. A SDI of 100% indicates that a doubling of the prevailing average lending rate is required if subsidies are to be eliminated. A negative SDI indicates that a DFI has not only achieved financial sustainability, but that its annual profits exceed the total annual value of the subsidies. It also implies that the DFI could have lowered its average lending rate while simultaneously eliminating any subsidies received in the same year.

Attention is drawn to the following interrelationships, *ceteris paribus* (see table 5.4 for more examples):

- The largest most obvious impact on the SDI is caused by changes in the annual average lending rate.
- A change in the concessional borrowing rate will not affect the final SDI, although certain components of the SDI formula will change.
- An increase in the market interest rate will result in an increase of the SDI.
- If the amount of voluntary savings and deposits increase relatively to total borrowed funds, while total liabilities remain unchanged, the SDI will be expected to decrease. This will only materialise if the average cost of such voluntary savings and deposits (inclusive of administration costs) is lower than the market interest rate.
- As the annual provision for loan loss increases, the subsidy dependence of a DFI also increases.

Much of the conventional financial reporting used in assessing DFI financial performance typically focuses on the profitability of the intermediary involved, as reflected in financial profitability ratios such as return on equity (ROE) and return on assets (ROA). Rarely, however, is supplementary information provided on the value of implicit and explicit subsidies received by the DFI. There is no routine, standardised methodology that requires the assessment and measurement of subsidy dependence or changes that occur over time. However, much of a DFI's presented "profit" could often not have been obtained without significant subsidisation.

The ROE can yield excellent information for the assessment of profit maximising financial intermediaries, but may be misleading information when used for a DFI. A concessional borrowing rate, which significantly influences the ROE, is determined through a political decision making process external to the DFI, rather than through market forces. The ROE ratio can therefore not be relied upon as a measurement of a DFI's financial performance. The ROA has similar deficiencies and limitations. Borrowing costs of a subsidised DFI are arbitrarily determined by external forces, and therefore distort the real return on assets if the subsidies were to be taken into account. Since the two ratios are based on the same concept and differ only in the DFI's gearing ratio, the ROA is equally inappropriate for the measuring and monitoring of performance of a subsidised development finance institution.

The SDI method overcomes the shortcomings of conventional accounting methods. It facilitates the evaluation of the subsidy implied in concessional borrowing, the opportunity cost of equity and other subsidies that are not easily gleaned from financial statements. The SDI can also be used as an instrument for monitoring a DFI's progress toward subsidy independence, for comparing similar DFIs and for cost

benefit analysis. The SDI therefore serves as a tool to be used as part of an evaluation of a DFI in the context of its costs and development impact. Finally, the SDI is only as accurate as the data used to compute it.

Table 5.4: Sensitivity of SDI to critical parameters

Parameter changed → / SDI component affected ↓	Conces-sional rate (C) ⇧	Market interest rate (m) ⇧	Voluntary deposits as a share of total borrowed funds ⇧ (**)	Admini-strative costs (dc) ⇩	Annual average on-lending int. rate (t) ⇧
Numerator (S)	⇔	⇧	⇩	⇩	⇩
Denominator (LPi)	⇔	⇔	⇔	⇔	⇧
A (m - c)	⇩	⇧	⇩	⇔	⇔
E * m	⇔	⇧	⇔	⇔	⇔
Gross subsidies	⇩	⇧	⇩	⇔	⇔
Profit (p)	⇩	⇔	⇩	⇧	⇧
SDI	⇔	⇧	⇩	⇩	⇩

Notes: (*) ⇧ = increase, ⇩ = decrease, and ⇔ = no change/effect. The above signs for the partial derivatives of the SDI with respect to key variables do not reflect the effect of changes in P on average annual equity and thus on the E*m component of the SDI formula. Taking into account these indirect effects results in qualitative changes for some derivatives, but only modest quantitative effects on the SDI, particularly where m is relatively low. (**) Subject to a situation in which the average (financial and administrative) cost of voluntary deposits is lower than the market rate (m), which indicates the marginal cost of mobilising voluntary deposits.
Source: Strauss Commission, 1996a, based on the work of Yaron, 1995.

The provision of non-financial services by a DFI requires special attention when measuring the SDI. Non-financial services are often rendered as an integral part of advancing credit, without charging for the service. The DFI often lacks appropriate cost accounting systems capable of reflecting the costs incurred in providing these services. The DFI's inability to achieve financial viability is also often blamed on the necessity of providing such services at no charge. The economic value of free services is difficult to assess. Also, costs associated with the non-financial services can be readily ascertained. This can also substantially assist in improving efficiency and refocusing resources and ultimately improving the management of DFIs.

The SDI method has the following advantages (Yaron, 1992):

- It reveals whether or not a DFI is financially self-sustaining.
- If not self-sustaining, the cost of keeping it afloat is quantified.
- Values for the SDI calculation can be compared across DFIs, especially where DFIs are engaged in lending to a similar clientele.
- Past trends and future projections can be calculated, providing management and policy makers with a valuable planning and evaluation indicator.

However, the method also has a number of limitations (Yaron, 1992):

- The SDI is not a general equilibrium analysis. For example, the effect on market rates of a DFI's entry into the market for deposits is not considered.
- A subsidy dependent DFI need not be unsustainable. Government or other agencies may be willing and able to subsidise it indefinitely.
- Positive SDI values provide no clear guidance as to whether the subsidies should be removed, because the SDI measures the costs but not the benefits generated by a DFI.

5.13.2 Outreach

Outreach is in essence measured by assessing the type of clientele served, assessing the variety of services and looking at the spread of services. Contrary to the measurement of self-sustainability that combines financial and economical measurements, outreach is a physical measure as illustrated in table 5.3. The measurement of outreach therefore concentrates on the variables as depicted in table 5.5 (Yaron *et al*, 1996; Otero & Rhyne, 1994).

Table 5.5: Primary assessment criteria to measure self-sustainability and outreach to target clients

Primary assessment criteria

Self-sustainability	Outreach to target clients
Composite Index: SDI *Measure subsidies received against interest earned by RFI*	**Hybrid Index:** *Evaluates outreach &quality of services offered.*
Examples of subsidies: ♦ Interest rate subsidy on concessionally borrowed funds ♦ Opportunity cost of equity ♦ Other, including: • Reserve requirement exemptions • Free equipment provided by government/donors • Free training for staff provided by government/donor • Government assumption of foreign exchange loans	Examples of Indicators: ♦ Market penetration • Number and annual growth of saving and loan accounts • Value and the annual growth rate of the loan portfolio and deposits • Number of branches and staff ♦ Relative income level • Value of average loan and range of loan amounts • Percentage of rural clients • Percentage of women clients ♦ Quality of services • Transaction costs to clients • Flexibility and suitability of services • Distribution network

Source: Yaron *et al*, 1997.

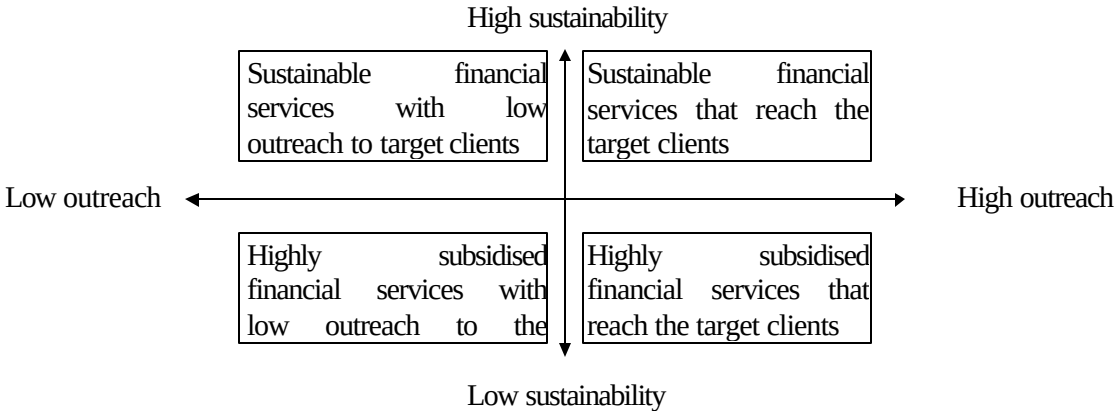
5.13.3 Discussion of measurement

Self-sustainability and outreach are objectives to be strived for by rural finance institutions, but are in a way seemingly contradictory. Increasing outreach increases transaction costs in terms of physical origins of cost; however, it decreases the cost of information. The challenge is to increase access through emphasising outreach, while at the same time preventing a negative impact on the sustainability of the organisation. In a way overall efficiency of the organisation can only be reached by the joint achievement of these two objectives.

As is true for all markets, financial markets are slow to develop and a range of external factors may impact negatively or positively on the institution. These can include an efficient transport system and infrastructure, communication services and infrastructure, profitable participation in the market through production, trade or services, training and non-financial support services. It follows that the simultaneous achievement of these two objectives is to be strived for. Majahan (quoted by Yaron *et al*, 1996) illustrates the relationship and the effect of over emphasising one aspect in figure 5.3. Most past interventions resulted in reaching the lower left quadrant (figure

5.3). The objective of the analysis and approach presented in this section is to explain what steps should be taken to move towards the top right hand side quadrant.

Figure 5.3: Optimising performance (Source: Yaron *et al,* 1996)



The measurements discussed in this section are mostly physical in nature. It is not difficult to count the number of branches, calculate the outstanding loan portfolio and assess how many women clients are reached. What is missing, is those variables that could indicate the impact of financial services on poverty reduction, improved production, empowerment of women, improvement of food security at the household level and ensuring that broad development objectives are met. Impact studies are mostly questioned as the data on which they are based is questioned. It is however argued that access to financial services can improve the situation of the poor (Zeller *et al*, 1997; Hulme & Mosley, 1996). It is therefore necessary to expand the measurement of outreach to include more than just the physical measures. Measurement of success should also consider whether financial institutions are impacting on the poor (the so called unbankable). Therefore Zeller *et al* (1997) also argue that measurement techniques should concentrate not only on the institutions, but also on the clients (see table 5.6 for effects of credit on welfare). In the past, impact studies were generally frowned upon due to data problems and the lack of appropriate methodology (or appropriate application of methodology).

Manfred Zeller of the International Food Policy Research Institute has done path breaking work in this regard in recent years (Zeller *et al*, 1997). He showed that access to financial services does make a difference for the poor. More research is therefore necessary on the measurement of the impact of financial programmes on these variables. These aspects reflect the building blocks of the new approach and show that it is still being moulded. It follows that approaches to the structuring of finance programmes should take on a more differentiated profile. In this regard Zeller *et al* (1997) emphasise the development of innovative savings schemes for the poor, and demand-orientated credit services, giving attention to the cost of credit operations, collateral strategies for lending to the poor and institution building of financial institutions within a food security perspective. Differentiated approaches to rural finance programmes will be discussed in more detail in sections seven, eight and nine.

Table 5.6: Effects of credit on welfare: A summary of findings

Indicators of welfare outcomes	Observed impact of credit programmes							
	Bangladesh	Cameroon	China	Ghana	Madagascar	Malawi	Nepal	Pakistan
Household income level	(+)	(+)	(+)	(?)	(+)	(+)		
Technology adoption					(+)	(+)		(+)
Total food expenditure	(+)		(+)			(+)	(+)	(+)
Total calorie intake	(+)	(?)	(+)	(?)[a]	(+)	(+)	(?)	
Nutritional status of children	(?)	(?)		Mixed[b]	(?)			
Consumption variability	(-)						(-)	

(+) or (-) indicate positive or negative impact statistically significant at the 10 per cent level. (?) means that the effect was not significantly significant. Blank cells mean that the impact was not analysed in that country. [a] No significant effect on calorie intake was found, note that 75 per cent of these households already met at least 80 per cent of total calorie requirements. [b] Regressions were run separately for each major type of credit programme. One credit programme showed positive effects on pre-schooler height for age. The results for two other programmes were not significant. Source: Zeller *et al*, 1997.

5.14 CONCLUSION

In the introduction to this section the new approach was qualified and it was emphasised that this is not a panacea for success. When institutions are measured in terms of outreach and self-sustainability, very few meet the requirements stated in this section. However, those that can be considered successful meet most of the basic requirements discussed. A further characteristic of a successful rural financial institution, irrespective of the form the institution takes, is that it is shaped according to the demand for servic es expressed by clients and the characteristics relevant to the specific client group and area serviced. When discussing measurement techniques we found that outreach measures should be extended to ascertain whether the client was reached, and what the impact of access to financial services was on the welfare of the client. This has to do with information flows and the shaping of strategies and structures based on this information. It further clearly shows that one policy cannot address the financial demands of all the categories of rural people as well as categories of rural poor. It calls for differentiation of policy, appropriate strategies, no blanket approaches and improved information flows.