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**Microfinance as a Nexus of Incentives**

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## **MICROFINANCE AS A NEXUS OF INCENTIVES**

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**Frankfurt/Main  
May 2001**

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## *Abstract*

Access to loans and other financial services is extremely valuable for micro, small and medium-sized enterprises in developing and transition countries as it enables their owners as well as their employees to exploit their economic potential and to increase their income. Although this insight has led development aid institutions to undertake many attempts to create sustainable microfinance institutions, so far only a small fraction of these efforts have been successful.

This article seeks to explain what determines the success of attempts to provide financial services, and credit in particular, to low-income target groups in developing and transition countries. We argue that it is crucial to understand, and to mitigate – or, if possible, eliminate – the numerous incentive problems of a serious nature that are encountered in practice at the level of lending operations and in the areas of human resource management and governance in microfinance institutions. We attempt to show, moreover, that the presence of unresolved incentive problems at one level will ultimately undermine any potential for success that may exist at the other levels.

In our paper, we first analyse information and incentive problems from a theoretical perspective, using and extending the well-known Stiglitz-Weiss model of credit rationing, and derive theoretical requirements for the solution of these problems. Against this background, we then discuss how problems are solved in practice. Section 3 deals with the credit relationship. Section 4 extends the argument by showing how incentive problems within microfinance institutions can be addressed, and section 5 analyses corporate governance-related problems encountered in development finance institutions as incentive problems. In section 6 we show why – and how – the incentive problems at the various levels, as well as the solutions to these problems, are interrelated. From this we derive the proposition that, as the institutional mechanisms for dealing with these problems constitute a complementary system, the achievement of a sustainable solution at any level presupposes the existence of consistent arrangements of all elements and at all levels of the system. In the final section we will demonstrate the potential of strategic networks to create institutions which we consider to be consistent systems that can resolve the problems found at all three levels simultaneously.

Keywords: Development finance; institution building, credit rationing; corporate governance, networks

JEL classification: O 16, 17

## 1. Introduction and definition of the problem

Development finance deals, at both a theoretical and at a practical level, with the financial system in developing countries and transition economies in general terms. By contrast, the more specialised discipline of microfinance focuses on the question of how low-income segments of the population – and particularly small and micro entrepreneurs, small farmers and other self-employed persons from the lower social strata – can obtain improved access to credit and other financial services.

There were a few writers who began quite early to criticise in no uncertain terms the general policy of the developing countries with regard to their financial sectors – as well as the development-aid policy of the industrialised countries in the 1960s and '70s, which accorded well with the policy pursued by the developing countries. These critics advanced arguments drawn from economic theory to make their case.<sup>1</sup> However, in the past neither development finance in general, nor the specific discipline of microfinance, were really taken seriously in the sense of being seen as an appropriate area of inquiry for mainstream economic literature. Thus, it should come as no surprise that, for a very long time, development finance practitioners were not influenced to any significant extent in their work by economic theory.

More than a decade ago, however, the situation began to change fundamentally. One crucial reason for the heightened interest of mainstream economic researchers in microfinance has been that in practical development-finance work in the provision of finance to small and micro enterprises – i.e. in the field generally known as “microfinance” – successes were achieved that would previously have been inconceivable. By adopting a clear commercial orientation and ensuring that measures addressed the difficult problems entailed in financial institution building, practitioners have succeeded in creating several dozen financial institutions in developing and transition countries which are financially stable, and indeed profitable, and which provide their services to a large number of poor customers who would probably not even be allowed to set foot in the credit departments of conventional banks.<sup>2</sup>

These success stories have drawn the attention of mainstream researchers. However, developments in economic theory itself have been at least as important in terms of focusing attention on microfinance. By adopting an institutionalist approach, economic theory suddenly developed a new interest in the phenomena which development finance practitioners have long regarded as crucial. It is now possible to demonstrate in theoretical terms that “poor people” do in fact have problems in obtaining

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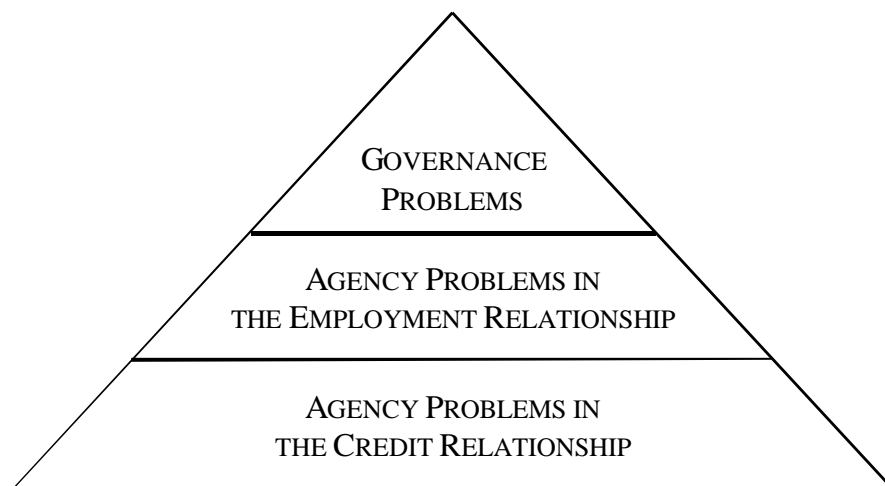
<sup>1</sup> A good overview is provided by the two anthologies by Von Pischke et al., 1983 and Adams et al., 1984.

<sup>2</sup> A current list of these relatively successful MFIs can be found in the *MicroBanking Bulletin*.

access to credit, that the supply of credit available to them is limited, and that it is not sufficient to simply eliminate restrictions imposed by the state – i.e. to eliminate what is commonly known as “financial repression” – if the goal is to solve the problems that development activities in this field seek to address.<sup>3</sup>

The “new institutional economics”, including what Joseph Stiglitz has called “The New Development Economics”, deals primarily with information and incentive problems, and does so at two levels. First, it identifies problems of this type as the cause of the difficulties which “poor people” have in obtaining bank loans to finance their economic activities; and second, it recognises that institutions – which can also be characterised as complex and durable incentive systems – might offer a suitable means of mitigating these problems.

Our paper develops and illustrates the hypothesis that in development finance generally, and specifically with regard to microfinance, the principal challenge is to mitigate incentive problems that make it difficult for providers and (potential) users of financial services to come together in the marketplace, and to create incentives that make it economically rational for them to do business with each other. Moreover, it seeks to promote acceptance of the methodological insight that this is the right way to approach such problems, both in theory and in practice.<sup>4</sup> In this context it is necessary to distinguish between three levels of incentive problems, and thus also between three levels of institutional design



(see Fig. 1).

Fig. 1: The various levels of incentive relationships involved in MFIs

<sup>3</sup> On this point, see in particular McKinnon, 1973, Shaw, 1973, and Diaz-Aljandro, 1985, as well as Tschach, 2002.

<sup>4</sup> For an earlier attempt with the same intention, see Krahn/Schmidt, 1994.

The first level consists of the lending operation, and hence the relationship between lenders and borrowers and the market for small and micro loans. A borrower who conforms to the concept of human nature assumed by economists “naturally” does not want to pay back a loan that has already been disbursed to him/her. Furthermore, in many developing countries and transition economies, it is very difficult to use the legal system to enforce contractual obligations to make interest and principal payments. That is the reason why microfinance institutions (MFIs) have to be able to find methods of persuading their borrowers to pay back their loans, with interest, on time and in full which are not only effective and inexpensive, but also socially acceptable.

The second level refers to the internal structure and operating methods of MFIs. The objective here is to develop strong incentives for employees, and especially bank officers, which induce them to issue a large number of small loans and also to see to it that they are repaid. Incentives are also needed for staff in management positions to ensure that, despite the presumed higher cost of issuing small loans, they do not stop serving small and micro entrepreneurs, who constitute a particularly important target group from the point of view of development policy, yet at the same time focus on maintaining the financial sustainability and soundness of the institutions they manage.

The third level of incentive problems concerns the interaction of three groups: (1) those who manage an MFI, (2) those who provide its equity, and (3) those who offer funds for *technical assistance*. At this level, the problem of the ownership structure and *corporate governance* of an MFI is posed – a problem which tends to be particularly acute when the institution in question is financially successful – and it is the way in which this problem is addressed, more than any other factor, that determines whether an institution of this kind remains viable in the long term, and also whether it remains relevant as an instrument of development policy in the long term.

We begin our contribution in section 2 with a description of the well-known model devised by Stiglitz/Weiss (1981) to depict credit rationing. Our purpose in describing and then expanding this model is twofold. The model not only demonstrates that micro and small enterprises face a financing problem and shows why this is the case. It also points towards possible methods of resolving this problem which can be put into practice within the framework of a lending methodology specifically tailored to this target group. In section 3 we discuss how this can be done, proposing a strategy which seeks to resolve the incentive problem encountered at the first level. In addition, the Stiglitz-Weiss model provides a theoretical framework within which the internal incentive problems that arise within the MFI, and the incentive problems at the level of management, investors and donors can be addressed – which we do in sections 4 and 5. In section 6 we discuss in a generalised form the

interdependence of the various incentive problems and their possible solutions at the three levels, and in section 7 we describe a possible means of resolving this set of interconnected incentive problems.

## 2. Theoretical analysis of principal-agent incentive problems

This section investigates incentive problems in principal-agent relationships. In the first two subsections we discuss the impact of information asymmetries on the credit supply provided by banks. Using the Stiglitz-Weiss<sup>5</sup> model, it will first be demonstrated that asymmetric information can lead to a situation in which it would be detrimental to the banks if they were to raise interest rates above a certain level. As a result, the pricing mechanism which could serve to clear the markets is rendered ineffective. In the second subsection, several highly restrictive assumptions of the Stiglitz-Weiss model are suspended in order to analyse the impact of information distribution on potential recipients of small loans. The subject of the third subsection is whether the analysis can be applied to other principal-agent relationships, i.e. employer-employee relationships and business relationships. The fourth subsection then derives possible solutions from the theoretical analysis.

### *a) The Stiglitz-Weiss model*

This subsection contains a brief summary of the key arguments presented in the well-known, influential article by Stiglitz/Weiss (1981). A detailed derivation of the results will not be presented here.

Figure 2 summarises the basic features of the Stiglitz-Weiss model. The third quadrant (bottom left) represents a savings function in which it is assumed that there is a positive correlation between savings volume (S) and the interest rate on savings and deposits (r). However, there would be no fundamental change in the results even if the savings volume were completely inelastic with respect to interest rates. The return on the banks' lending activities (r) must be at least as high as the deposit interest rate. For the sake of simplicity the banks' return is assumed in the following to be equal to the savings interest rate. The 45-degree line in the second quadrant merely transposes the savings volume into the first quadrant, where it represents the credit supply.<sup>6</sup>

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<sup>5</sup> See Stiglitz/Weiss, 1981, and also the presentation in Tschach, 2002, which we follow here.

<sup>6</sup> Owing to the multiplier effect, the banks can lend amounts which are a multiple of their deposits. However, because the multiplier is an exogenous factor and thus a constant, the result is merely a bubble which is assumed to be already contained in the savings function shown on the graph.

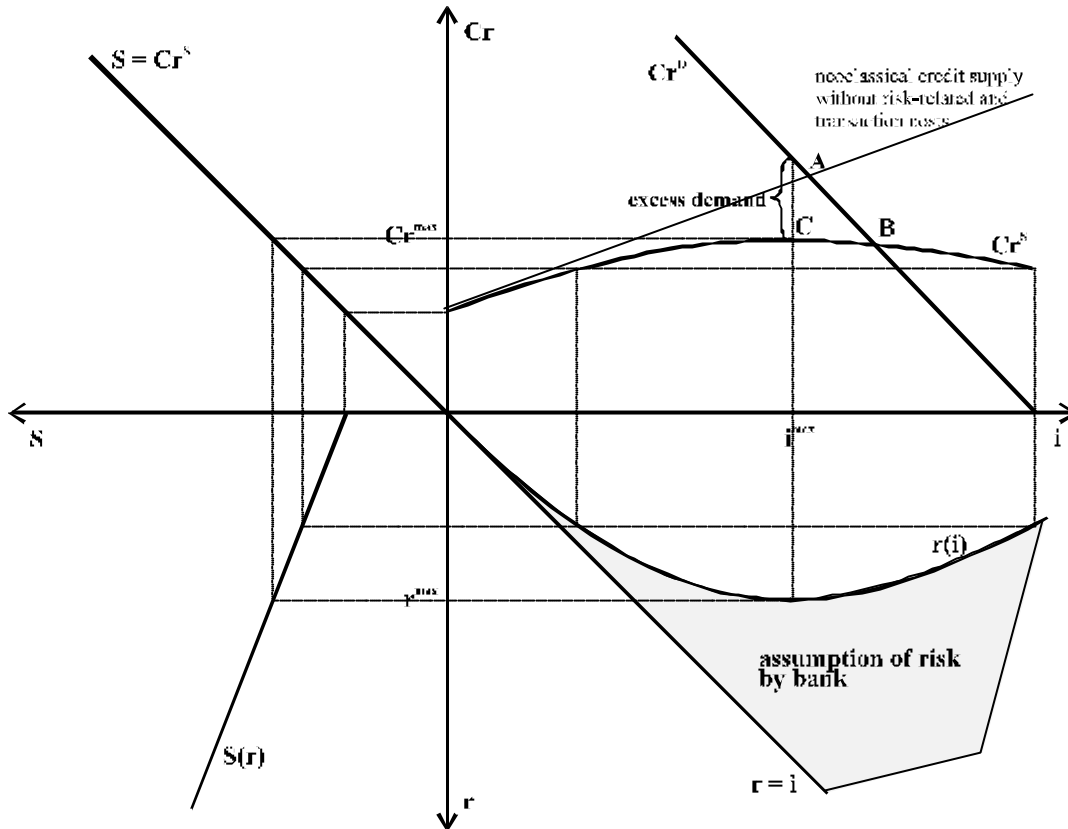


Fig. 2: The central implications of the Stiglitz/Weiss (1981) model

The first and fourth quadrants are of key importance. The fourth quadrant depicts the banks' return ( $r$ ) as a function of the lending interest rate ( $i$ ). Proceeding from the assumption of asymmetric information distribution between lender and borrower, Stiglitz/Weiss show, on the one hand, that when lending interest rates go up, low-risk borrowers do not (cannot) realise their projects. On the other hand, for borrowers who continue to implement projects, rising interest rates provide an incentive to invest in increasingly risky projects. The banks must bear part of the risk, which is reflected in their returns: While the straight line in the fourth quadrant describes the correlation between  $r$  and  $i$  which would apply if there were no credit risk for the bank ( $r = i$ ),  $r(i)$  represents the correlation which is in fact relevant for the bank. Stiglitz/Weiss have thus shown that when interest rates increase beyond a certain rate ( $i^{\max}$ ), the banks' returns must decrease.

The first quadrant plots the credit supply of the banks ( $Cr^S$ ), which is depicted through simple transposition in a four-quadrant system (unlike typical representations of supply and demand, the position of the axes here has been reversed). Although there is a point at which credit supply and credit demand intersect (B), this point represents an interest rate which is higher than  $i^{\max}$  (C). The banks are therefore not willing to charge such high rates as point B would imply, because in doing so they would reduce their own returns. Thus, they will disburse only  $Cr^{\max}$  credit at an interest rate of



exactly  $i^{\max}$ . By “refusing” to charge higher interest rates (i.e. prices), which would in turn reduce the demand which exists at  $i^{\max}$ , the banks render the market mechanism ineffective: The existing excess demand for funds cannot be absorbed by increased prices, but instead remains at the level plotted on the graph.

Thus, it may be concluded that even without legal interest rate restrictions, information asymmetries can lead to “implicit” interest rate ceilings; this in turn prevents markets from clearing and leads to credit rationing.<sup>7</sup>

*b) Elaborations on the Stiglitz-Weiss model*

We shall now extend the Stiglitz-Weiss model in order to draw conclusions regarding the impact on the supply of credit to small enterprises. The assumptions made by Stiglitz/Weiss which are problematic in this respect are that

- a) all borrowers demand credit in equal amounts,
- b) all borrowers have the same expected RoI on their projects, and
- c) transaction costs need not be taken into account.

These three assumptions shall now be suspended. Depending on their size, enterprises achieve different RoIs,<sup>8</sup> demand loans of varying size, and generate varying transaction cost levels expressed as a share of the loan amount. How do these changes affect the model as depicted above?

An increase in an enterprise’s expected RoI will, owing to higher anticipated profits, in principle have two effects: on the one hand, the risk borne by the banks at a given interest rate decreases (distance to the 45° line); on the other, the interest rate at which banks can maximise their returns,  $i^{\max}$ , increases. As a result of these two effects, the return function for the banks,  $r(i)$ , is extended down and to the right. The level of the transaction costs incurred by the banks is not a function of the interest rate charged, and, as a result, factoring in the transaction costs causes an upward parallel shift in the return function.

Fig. 3 illustrates these correlations separately for small and large loans. Small loans are granted to small enterprises with higher RoIs, and thus the return function of the banks which applies to them,

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<sup>7</sup> Credit rationing as a consequence of external interest rate ceilings, e.g. imposed by central bank regulations, is shown by González-Vega, 1983 and Tschach, 1995.

<sup>8</sup> Empirical surveys of borrowers from *Caja Los Andes* in Bolivia have shown that the marginal productivity of the capital invested declines steadily from over 1,000% p.a. for the smallest enterprises to approximately 40% for this institution’s largest credit customers, i.e. enterprises with total assets of between US\$ 10,000 and US\$ 30,000.

$r(i)^{small}_{gross}$ , is relatively flat. However, this function does not yet take into account the banks' transaction costs. Because transaction costs are relatively high for small loans, this causes a relatively strong upward shift in the return function, so that it extends into the field of negative values in the fourth quadrant. The net return of the banks, less transaction costs, is depicted by the function  $r(i)^{small}_{net}$ .

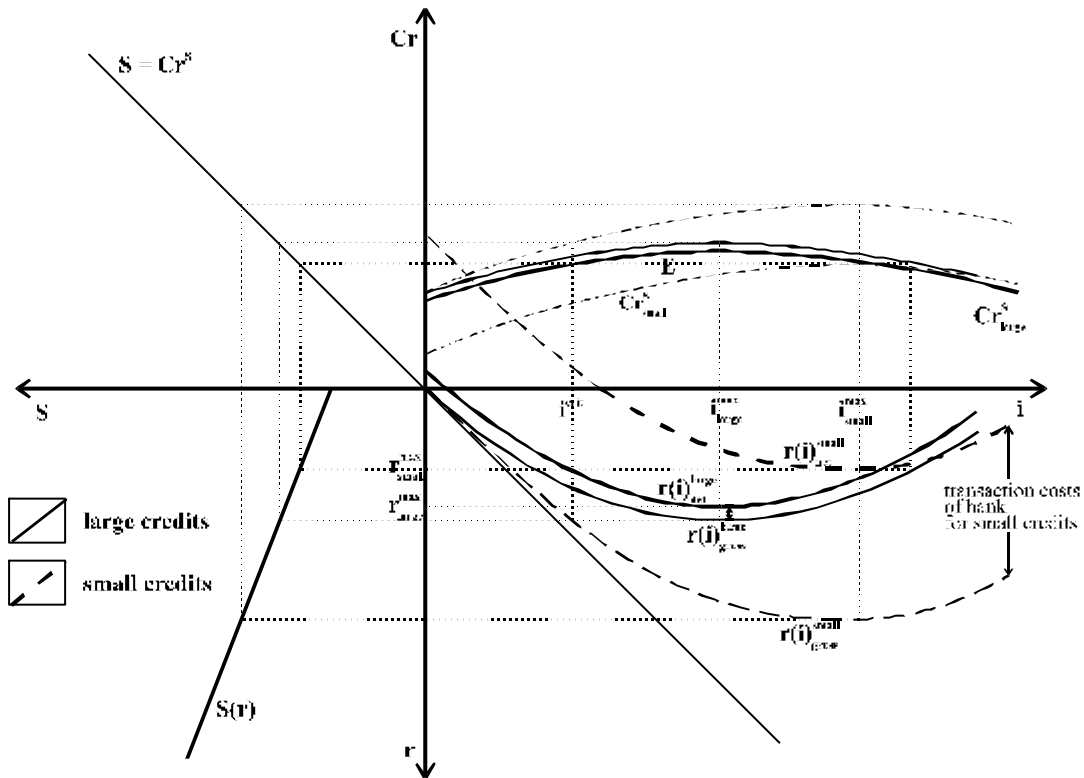


Fig. 3: The expanded Stiglitz-Weiss model

The analogous function for large loans is relatively compressed; the distance between this curve and the 45° line increases more than the function  $r(i)^{small}_{net}$  as the interest rate rises. However, because the banks' transaction costs, expressed as a percentage of the loan amount, are significantly lower for large loans, the curve is not shifted upward as strongly;  $r(i)^{large}_{net}$  is the function which represents the banks' net return on large loans.

From this juxtaposition in the fourth quadrant of Fig. 3 it is clear that, although the interest rate at which banks can maximise their return is substantially higher for small loans ( $i^{max}_{small}$ ) than for large credits ( $i^{max}_{large}$ ), the banks' return,  $r(i)$ , is nonetheless higher for large loans. The only case in which the banks' return on small loans will be comparable to what they can earn on large loans is if the interest

rate in the market for large loans is lower than  $i^{crit}$ . If it is, large loans would be granted at an interest rate of  $i^{crit}$ , while small borrowers would have to pay the much higher interest rate of  $i_{small}^{max}$ .<sup>9</sup> It should be noted that despite the considerable difference in interest rates, the banks' net return,  $r_{small}^{max}$ , would be identical for both groups of borrowers.

The credit supply curves transposed into the first quadrant, and with them the resultant equilibriums in the markets for small and large loans, require a great deal of interpretation as they would only be valid if the entire volume of savings mobilised were channelled exclusively to the respective group of borrowers. The necessary analysis will be performed on the basis of the Fig. 4.

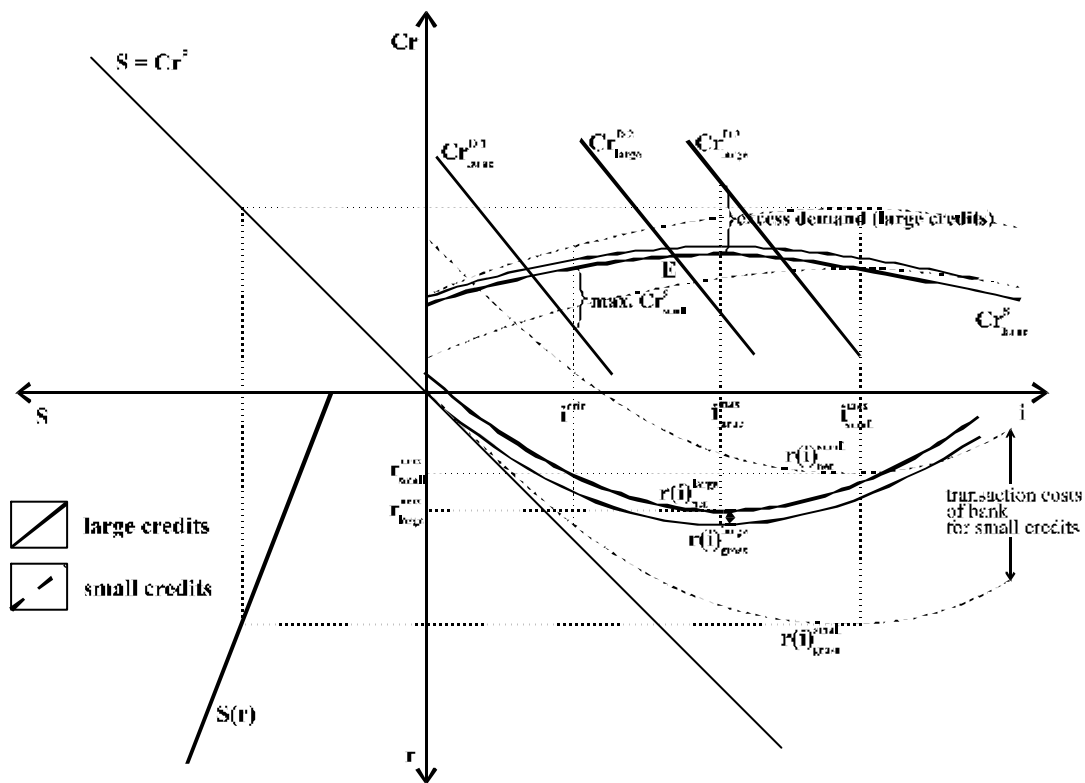


Fig. 4: The credit supply provided by banks according to the expanded Stiglitz-Weiss model

In this graph, the conditions for the credit supply presumed above are juxtaposed with three possible credit demand functions for large borrowers. If the demand of large borrowers is equivalent to  $Cr_{large}^{D2}$ , an interest rate higher than  $i^{crit}$  will emerge in this market segment at which the banks' net return is higher than the return they could earn in the small loan market. For this reason, the banks will only grant large loans, and completely ration credit to small borrowers. If the demand for large

<sup>9</sup>  $i^{crit}$  is the interest rate for large loans with which the bank earns the maximum net return attainable in the small loan market ( $r_{small}^{max}$ ).

loans corresponds to  $Cr_{large}^{D3}$ , then even large borrowers will be subject to credit rationing, because demand will also exceed the maximum possible supply at an interest rate of  $i_{large}^{\max}$ .

Loans will not be offered to small borrowers at all unless the demand for large credits intersects the supply function at an interest rate which is lower than  $i^{\text{crit}}$ . In the case of the demand curve plotted here,  $Cr_{large}^{D1}$ , the credit volume available to small borrowers would correspond to the difference between supply and demand in the large loan market at an interest rate of  $i^{\text{crit}}$  ( $\max Cr_{small}^S$ ). The small loans would then carry an interest rate of  $i_{small}^{\max}$ . If the demand for small loans is larger than  $\max Cr_{small}^S$ , credit rationing would also occur in this market segment given a  $Cr_{large}^{D1}$  demand situation. Only if the demand is smaller than  $\max Cr_{small}^S$  will interest rates decline for both small and large loans, and they will decline in such a way that the net return for the banks,  $r(i)$ , is always the same in both segments of the market.

*c) The applicability of the model to other principal-agent relationships*

The first two subsections analysed the principal-agent problems arising in credit relationships and their impact on the supply of credit. In this subsection we briefly show that the Stiglitz-Weiss model can also be used to investigate employment relationships and business relationships.

As in a credit relationship, information asymmetries also exist in employment relationships and business relationships. The principal cannot precisely gauge the performance of the agent, ex ante even less than ex post. The amount paid by the principal to the agent corresponds to the loan amount in the credit relationship: it is known ex ante and fixed. However, in contrast to the loan agreement, the employment contract does not set the amount of the “loan repayment” in advance; rather, this amount is a function of the value of the work performed for the principal. This value is determined in part by the agent’s skills and qualifications and in part by the amount of effort he/she exerts and the quality of the decisions he/she takes. Whereas the qualifications of the agent, and the amount of effort he/she exerts, have a significant bearing on the expected value of the services provided to the principal, the agent is able, by means of the decisions he/she makes, to influence the distribution of the returns which may accrue to the principal (and thus of the risks the principal incurs).

What makes these principal-agent relationships particularly problematic is that the agent does not usually provide any kind of “collateral”, i.e. does not assume liability for poor results. Instead, he/she will always try to disguise poor results by making them appear to be the consequence of unfortunate circumstances, even though they may in fact have been caused by insufficient effort, lack of qualifica-

tions or even “wrong decisions” which were taken intentionally – e.g. decisions by loan officers to issue loans to friends and relatives who were not creditworthy.

*d) Possible solutions from a theoretical viewpoint*

In this sub-section we present some general approaches to resolving the aforementioned problems, as suggested by theoretical analysis. The specific forms that these approaches could take when applied to the respective principal-agent problems are outlined in the following sections.

The theoretically derived problems are inevitably based on the assumptions underlying the model. Consequently, approaches to solving these problems, whether in theory or in practice, must take these assumptions as their starting point if the results respond sensitively to changes in the assumptions, and show ways in which targeted measures can alter the particular circumstances described in the assumptions.

In the model presented above it is assumed that the expected value of the returns is known to the principal and that it is equal for all agents (or groups of agents, i.e. small entrepreneurs and large entrepreneurs). This is a gross simplification and a rather optimistic assumption. On the other hand, it is assumed that the principal is totally incapable of gauging the distribution of the returns, which is a very pessimistic assumption because he/she can certainly try, by undertaking various measures, to acquire information about the distribution of the returns. At a theoretical level, therefore, the derived principal-agent problems could be resolved, or at least mitigated, if the principal were able to gauge with a sufficient degree of accuracy the expected value and the distribution of the returns generated by the agent.

The model described here is a single-period model in which a decision is taken at the start of the period and the results are not ascertained until the end, at which point they must simply be “accepted”. In practice, however, it is possible to detect inappropriate behaviour (whether in the form of inaction, errors or conscious decisions) not only at the end but already during the period by *monitoring* the credit, employment or business relationship. The normal procedure involves predetermined reactions, such as penalty interest or reductions in pay (e.g. in performance-based remuneration schemes). These mechanisms take into account not the distribution of the returns which is known *ex ante* only to the agent – but only the actual result up to each relevant point in time.

In particular, a single-period model cannot accommodate incentives that have a long-term effect. If the continuation of the principal-agent relationship is conditional on the performance of the agent, and if this relationship has a high (net present) value for the agent, the incentives to behave in an uncoop-

erative manner are reduced and the problems derived above are mitigated. At the theoretical level, therefore, the principal must attempt to increase the value of the future principal-agent relationship for the agent. The net present value of this relationship corresponds to the value of (additional) collateral which the agent stands to lose in the event of poor results.

Overall, therefore, it is advisable to minimise the short-term incentives for the agent to behave inappropriately, and to maximise the incentives for the agent to behave cooperatively. If the long-term incentives outweigh the short-term incentives, it is economically rational for the agent to behave cooperatively, i.e. in the manner desired by the principal.

A necessary precondition for the use of this approach is that the actual performance of the agent can be measured sufficiently accurately. This is not particularly difficult in the case of a loan agreement, as the performance consists of precisely measurable repayment instalments. In the case of a loan officer, it is already somewhat more difficult, as the quality of his/her decisions, i.e. the default or loss rate on the loans in “his/her” portfolio, can only be ascertained with a time-lag, and because short-term incentives (bonus payments) cannot be withheld until the repayment in full of all of the loans under his/her supervision due to the fact that his/her time preference rate will usually be quite high. Bank managers must perform tasks in so many different areas that an objective measurement of their performance, especially in the short term, is scarcely possible. The same is true of consultants who, while in the process of establishing and building a financial institution, may run into difficulties whose scope could scarcely have been predicted in advance. In general it can be said that the performance of an agent is more difficult to measure, the greater the range of tasks for which he/she is responsible. It therefore follows that “hard”, short-term incentives, i.e. performance-based pay schemes, are easier to apply, the narrower the range of tasks to be performed and the more quickly one can accurately determine, on the basis of measurable parameters, whether efforts have been successful or not.

A further problem is the agent’s risk aversion, which can be assumed to be higher than the principal’s. If the performance of the agent is measured solely in terms of the actual result and is evaluated according to precise, predefined parameters, the agent bears not only the risk associated with his/her performance, which he/she is of course able to influence, but also the risk of an unexpected deterioration in the external circumstances, e.g. macroeconomic crises. These risks are not an outgrowth of the agent’s performance, and therefore, from a theoretical viewpoint, he/she should not be made to bear them. The conclusion to be drawn from this is that his/her performance should not always be measured and evaluated according to predefined parameters, but rather – in certain cases – accord-

ing to a comparison with the results achieved by his/her *peer group*. This applies not only to borrowers but also to loan officers and banks' middle-management staff, although it presupposes that institutions will have a certain minimum size which prevents the members of the peer group from "coordinating" their behaviour. For this reason, the same mechanism would be of only very limited use as a means of influencing the behaviour of bank managers and consultants.

### **3. Incentive problems in a credit relationship, and how to overcome them**

Assessing the willingness and ability of potential borrowers to repay a loan poses one of the key problems faced in banking. A potential borrower has strong incentives not to declare information openly, or to gloss over problems, if he/she thinks that these factors might cause the bank to reject his/her loan application. A bank which cannot distinguish between borrowers who are willing and able to repay and those who are not has reason to treat all loan applications with scepticism. Anyone who has received a loan also has an incentive to increase the risk associated with his/her economic activities, and thus also the credit risk, if his/her liability is, de facto, limited. This is precisely what Stiglitz/Weiss show: *adverse selection* and *moral hazard* are the fundamental causes of credit rationing in their model.

The task of the loan officers and credit committees of a bank in a developed country with a highly sophisticated, functioning legal system is made easier by several institutional features that (are supposed to) make it more difficult and less attractive, from an economic and legal point of view, for borrowers to convey false information and exhibit the type of behaviour associated with moral hazard. These institutional features that characterise developed countries – a functioning legal system, a system of public ethics which does not approve of the act of deceiving and causing harm to banks, a separation of business units from family units, and suchlike – are not present to the same extent in developing and transition countries. So if one wishes to engage in lending operations in these countries, one must resort to other means of creating the same incentives. How can this be done, and how is it being done?

We first consider the problem of assessing a borrower's payment capacity, and, associated with it, the possible problem of adverse selection; we then turn to the problem of gauging the borrower's willingness to pay, and, associated with it, the problem of moral hazard.

*a) Payment capacity and adverse selection*

In a developing country, the economic activities and the family household of a potential small or micro borrower tend not to be separate from one another. Money from various sources flows into a pool, and is taken from this pool to be used for various purposes. The size and frequency of the inflows are typically very uncertain, in an “objective” sense, and they are also difficult to gauge. Furthermore, certain outgoing payments, e.g. for medical care, children’s schooling, and certain social obligations, are perceived by the borrowers to be more urgent than repaying the loan. Even as a fictitious assumption it would be inappropriate to conceive of a loan as financing a particular project or a particular “undertaking”. The lending methodology has to take these circumstances into account, and the following are some of the tasks which an appropriate methodology must be able to perform:

1. The delineation of the group of possible borrowers: The capacity of a potential customer to repay a loan can be more readily assessed, and assessed at reasonable expense, if his/her economic and social situation is relatively stable. This implies that, as a general rule, no start-ups should be financed, but only “entrepreneurs” who have already been pursuing their current line of business for a certain length of time.
2. Information gathering: When assessing an applicant’s borrowing capacity, the totality of his/her revenues and expenditures must be ascertained, and also the degree of urgency associated with each payment. This also includes the revenues and expenditures arising from the “project” for which the potential borrower is seeking a loan, even though the precise amount of these flows will probably be more difficult to determine than the borrower’s other income and expenditures. Nonetheless, it is possible to obtain at least enough information on the overall “family budget” to gauge the probability of default for a given loan, i.e. taking into account a specific amount, interest rate and maturity. In order to do so the loan officer must be able to assess the potential borrower’s family situation and living conditions. This is possible, but only if the bank demands, and promotes, the requisite degree of commitment on the part of its loan officers, and their acquisition of the appropriate skills through training.
3. Organisation of the process of information gathering: The required type and intensity of information-gathering work has an impact on the way in which loan officers are selected, trained and compensated, as well as on the organisation of the lending process and even on the bank’s overall strategy: all of these elements must be geared towards collecting and evaluating information of the



kind that is not contained in the credit documents that are usually compiled by lending institutions in industrialised countries.

Loan officers must have roots in the social environment in which they operate, and must be familiar with local conditions. They need to be given a clear understanding of how important “soft” information is, and where they can obtain it. Loan officers engaged in this kind of lending will spend only a small percentage of their time at their desks at the bank; they are more likely to be out visiting their clients, because it is only at their customers’ places of work (and their residences) that the really important information can be found. Each loan officer must also be responsible for ensuring that the loans he/she generates are actually repaid, and this responsibility must be reflected in his/her remuneration. (For more details on this point, see section 4.)

4. Organisation of the credit decision-making process: Experience from successful small lending programmes has taught us that experienced loan officers are capable of acquiring the necessary information, but also that it is difficult to assess this information. For this reason, it is helpful for a loan officer to be able to compare a given case with a large number of similar cases. An individual loan officer may be able to draw this comparison based on his/her own experience, and he/she can discuss his/her assessment with colleagues, giving due consideration to their experience and opinions. This is why it is advisable to have decisions taken by a committee in which each loan officer presents his/her cases to a group of other loan officers and defends his/her recommendations.

5. Determining the appropriate loan size: The ability of a borrower to repay a loan depends in part on the size of that loan. In the case of so-called *micro loans*, it is advisable – at least in terms of being able to gauge the credit risk – to issue loans whose size is such that, even if the desired increase in income as a result of the loan does not materialise, and even if additional adverse circumstances arise, repayment is still possible.

6. Loan terms and conditions: Short intervals between agreed payment dates allow the bank to draw conclusions from the borrowers’ repayment behaviour regarding their situation and possible changes in that situation. Wherever feasible, it makes sense to oblige customers to maintain a current account at the lending institution.

7. Active monitoring: Finally, when assessing borrowing capacity it is important to bear in mind that a loan officer does not have to sit back passively and wait to see whether a default occurs. He/she can – and should – demand that borrowers who are in arrears meet their obligations, and visit them and urge them to repay, thus potentially reducing the default risk.

8. Incentives to disclose information: Adverse selection is a consequence not only of a lack of information on the part of the lender, but also of a lack of willingness on the part of potential borrowers to provide reliable information. An MFI can set incentives to disclose. It can let the borrowers know that if it comes to light that they have provided false information, they will be “punished” by being barred from access to credit in the future. If the borrower can legitimately expect that he/she will continue to receive loans in the future provided that he/she discloses information in a fair and open manner, the short-term incentive to provide false information – which in the single-period Stiglitz-Weiss model is the only “rational”, the only effective and the only measurable incentive with respect to the provision of information – is replaced with a more long-term incentive to establish a reputation for credibility.

In the Stiglitz-Weiss model, the bank’s level of information is a given. There are no loan officers who find ways and means of detecting the different borrowing capacities of potential credit customers who seem to be alike. If this occurs in reality, it means in the language of the model that it *is*, after all, possible to gauge the expected value and the distribution of the returns with some precision, at least in broad quantitative terms. Thus, good MFIs have arrears rates of 3% or less.<sup>10</sup> The relevant *best practice* suggests that the Stiglitz-Weiss model overestimates the importance of adverse selection as a reason for credit rationing insofar as it is possible – albeit with a certain amount of effort – to resolve or alleviate this problem.

#### *b) Willingness to pay and moral hazard*

There are many things for which low-income borrowers in particular have a genuinely urgent need for money, so there is an incentive for them not to repay a loan that has been disbursed to them. How can incentives to repay be created? Many possible methods are available, and are indeed used by the successful MFIs. Anyone who does not repay a loan initially gains an advantage; yet this can be offset by disadvantages, and these disadvantages can be systematically designed. One method, which, although it is one of the traditional approaches, is difficult to implement in practice, is to secure the loan with collateral. In industrialised countries, collateral serves, at least in the conventional view, mainly to limit the lender’s loss in the event of default. In a developing country, this is not the primary function of collateral. Rather, collateral serves to hurt borrowers who deliberately seek to avoid repayment. Items of collateral are, in the words of O.E. Williamson,<sup>11</sup> *hostages to support ex-*

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<sup>10</sup> See Richardson, 2000.

<sup>11</sup> See Williamson, 1985, pp. 163 ff

*change and cooperation*, and a rational collateral policy is one that is designed according to this principle. The incentive not to repay a loan, which undoubtedly exists, can also be countered by an MFI if it makes use of the available legal means of collecting debts. Here too, the decisive factor is not so much the financial “return” yielded by the efforts to recover the funds, as the effect they have in influencing borrowers’ behaviour. However, a borrower’s decision whether or not to repay can only be influenced in this manner if borrowers are made aware that the MFI’s loan recovery policy provides for strict enforcement. All of this strengthens short-term incentives to repay and weakens incentives to commit wilful default.

Short-term incentives not to repay can be outweighed by long-term incentives to repay, which can be created by rewarding “loyal” and honest borrowers with advantages in connection with future loan applications. The most important of these advantages is the very fact that they can expect to receive further loans. However, this “promise” will not be effective as an incentive unless the lending institution continues to exist in the future and can still “remember” the borrower. To meet this condition, it must be a stable financial institution, and it needs to maintain appropriate documentary records, and both of these attributes must be visible to the customers. The logic of the lending operation therefore has far-reaching consequences for the “corporate strategy” of an MFI: it must be an institution that is not only stable, but is also clearly recognised as being stable.

In the literature, it has long been argued that the “opportunity to prove one’s reliability” is enough on its own to ensure that a loan is repaid. This is not correct; it is an exaggerated claim. However, the economic value of access to credit in the future is economically equivalent to an item of collateral that covers part of the value of a loan, and as such its possible loss is a counterbalance to the short-term incentive not to repay. Given plausible data constellations for time preferences and interest rates, the net present value of future access to credit works out to be roughly half the value of the economic advantage to be gained from the intended non-repayment.<sup>12</sup>

The advantage of having access to credit at a later date can be reinforced if MFIs offer better terms and conditions to repeat borrowers, i.e. customers with a proven track record. They can be additionally rewarded with larger loan sizes, longer maturities and lower interest rates.

In addition, there are further mechanisms which are based on social relationships. An MFI may behave in such a way that failure to repay its loans is regarded as socially unproblematic or even as a legitimate “act of political resistance”. However, it may also behave in such a way that it is seen as a

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<sup>12</sup> See Tschach, 2002a.

socially important institution, as a “friend and helper”, who does not deserve to be cheated. For this reason it is also important to ensure that each borrower has “his/her” loan officer, whom he/she knows personally and whom he/she ultimately must thank for enabling him/her to gain access to the institution’s valuable credit facilities. The borrower might not be all that averse to doing something that would harm the institution, but he/she will certainly not wish to hurt the loan officer. If the loan officer’s income level is partly dependent on the repayment of the loan, i.e. if a refusal to repay by one of his/her borrowers has a negative economic impact on the loan officer, he/she will exert social pressure on the borrower, both directly in conversation with that borrower, and also by indirect means, e.g. by complaining to his/her other borrowers about the delinquent borrower’s uncooperative behaviour. If these other borrowers regard the bank as “their” bank,<sup>13</sup> from whose services they will continue to benefit as long as the bank exists and as long as it offers them favourable terms and conditions which – as the small borrowers also know – will tend to become less favourable as a consequence of uncooperative behaviour on the part of credit customers, the first borrower’s refusal to pay will not meet with social approval but rather with censure, and possibly, other kinds of social sanctions. These sanctions, and the expenses that would presumably be associated with them, represent costs which a borrower can expect to incur if he/she refuses to pay. The higher these costs, the lower the probability of a refusal to pay.

Both the value of the future credit relationship and the possible damage to a borrower’s reputation if he/she defaults together form “quasi-collateral” which the borrower stands to lose if he/she defaults. In the Stiglitz-Weiss model, physical collateral does not solve the information problem unless it covers the full amount of the loan. But if the collateral does not cover the full loan amount, higher collateral amounts, like higher interest rates, give rise to additional (potential) costs for the borrower, thus increasing his/her willingness to take risks and making adverse selection more likely. The “quasi-collateral”, unlike conventional collateral, is not a part of the contractually stipulated loan terms and conditions that are usually considered relevant to the investment decision, i.e. it is not considered to be a cost component. As it is forfeited if the loan is not repaid, and may well have a high value for the borrower, increasing the quasi-collateral acts as an incentive to the borrower to lower, rather than raise, the risk associated with his/her investment.

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<sup>13</sup> However, the customers will not see the bank as “their” bank unless its business is focused mainly on the target group. This is an argument in favour of clearly specialised, target group-oriented banks as against a *downscaling approach* involving the provision of small and micro loans through conventional commercial banks.

#### 4. Incentive problems at the level of the MFI

Government agencies, enterprises and similar institutions are complex organisations. They are, at the same time, complex incentive systems which – with greater or lesser success – induce their constituent subunits and their individual staff members to behave in such a way that the goals of the institution are achieved in the best possible manner. Such an institution differs from a market insofar as it offers a wide variety of incentives, but these tend to be weaker than those created by a market. This does not, of course, imply that in enterprises and similar institutions market-type incentives could not also be used to influence behaviour.

In the literature on organisation theory based on principal-agent theory, incentive problems within organisations are primarily seen as existing in situations where information about the skills and competence of potential employees is asymmetrically distributed, where the extent to which employees exert themselves is not sufficiently observable, and where employees wish to avoid effort and use their opportunities to make decisions in order to pursue their own goals.<sup>14</sup>

The characteristic task or main activity of MFIs is small and micro lending. This type of operation requires specific resources and skills. Furthermore, an MFI must be managed. Both in lending operations and in corporate management, information is needed which is difficult to transfer; in both areas, actual exertion of effort is difficult to observe; and it is often difficult to judge whether the decisions that have been taken were in fact correct. Finally, MFIs almost always operate in a difficult environment.<sup>15</sup>

In the following we discuss the implications of these factors for the incentive systems designed for loan officers and management personnel. As in the previous section, the main emphasis is on the question of how short-term incentives can be changed and how short-term negative incentives can be overridden by long-term positive incentives.

##### *a) Incentive systems in small-scale lending operations*

The performance requirements for personnel responsible for lending can be described in relatively precise terms. Loan officers are expected to issue loans that are advantageous for the MFIs.

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<sup>14</sup> See in particular Jensen-Meckling, 1974.

<sup>15</sup> Typically, that environment is characterised by a relatively underdeveloped legal system, a relatively inefficient banking supervisory authority, and a political sphere that strongly influences the financial sector. In many cases, competition in the relevant credit market is not particularly fierce among the local banks, but frequently MFIs face strong competition from non-commercial credit programmes which are heavily subsidised by international aid programmes.

Specifically, this means that they should build up a large loan portfolio, since in most cases the lending business is the most important source of profit for an MFI. It also means that they should issue a large number of small loans to relatively difficult categories of customers, such as women microentrepreneurs, since this accords with the MFI's mission as an instrument of development policy, and with the interests of key investors and donors, and thus makes it easier to obtain onlending funds and financial support in the form of technical assistance grants. Moreover, they should issue loans that will be repaid, since loan defaults have an adverse impact on the MFI's financial results, waste costly working time, and damage the reputation of the institution. In addition, loan officers are expected to behave in a cooperative manner in their working environment, and they should support their colleagues as and when the need arises, participate actively in credit committee meetings and play their part in ensuring that the MFI enjoys a good reputation among the customers for whom they are responsible.

Apart from special cases, credit decisions are not taken by individual loan officers, but by a credit committee; nonetheless, an individual loan officer is much better informed than anyone else in the organisation about his/her own customers. Consequently, he/she has a key role to play. He/she makes a proposal that the group accepts or rejects. And to a large extent, he/she is exclusively responsible for taking the entire range of decisions which lead up to the establishment of credit relationships, and which are involved in monitoring and recovering the loan after disbursement.<sup>16</sup> It is possible to only a very limited degree to observe and monitor the amount of effort that loan officers exert in the fulfilment of their duties, and whether they make the right decisions.

However, while the loan officer's input of labour is difficult to quantify, his/her performance *is* largely measurable in quantitative terms. Loan portfolio volume, loan disbursement, the size range of loans issued, and the repayment rate are all "dimensions of performance" which lend themselves to precise measurement with only a short time-lag, provided that the allocation of responsibility for individual loans and customers to individual loan officers is straightforward, transparent and stable over time. This suggests that loan officer compensation should be performance-based, and in fact, numerous

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<sup>16</sup> Allocating responsibilities differently within a small loan operation would not be appropriate to the specific characteristics and requirements of this line of business. Decision-making would be too slow, and the procedure would be overly bureaucratic. The implications are straightforward: a borrower has "his/her" loan officer and a loan officer has "his/her" customers. This gives the loan officer considerable decision-making power which is constrained only by the general oversight exercised by senior loan officers or other staff in similar supervisory functions, which, however, only serves to limit the loan officer's discretionary powers to a certain extent. The loan officer needs reliable, up-to-date information on the repayment behaviour of his/her customers. The MFI must make this information available to him/her, and in order to do so, it needs an appropriate information system.

modern MFIs operate loan officer incentive schemes. In addition to their basic salary, the loan officers receive a bonus which is determined by the values they achieve for the parameters that constitute the “dimensions of performance”, the relative weighting of which may vary according to the specific objectives of each institution. A recently conducted informal survey of project managers of microfinance projects confirms that the behaviour of loan officers is indeed influenced by financial incentives.<sup>17</sup>

Because every loan officer needs a minimum level of financial security, and because his/her performance is not solely dependent on his/her own efforts, the basic salary must be high enough to cover his/her basic living costs if, for whatever reason, that is all he/she is able to earn in a particular month. In practice, it amounts to roughly 50% of the loan officer’s average total income. The total income should be set at a level which makes it unattractive for good loan officers to leave the institution, since a low frequency of staff turnover allows the institution to accumulate information about individual customers and the clientele as a whole which will enable it to improve its credit decision-making over time.<sup>18</sup>

However, performance-based remuneration must not be the only instrument which an MFI uses to influence behaviour. At least three others must also be applied. Direct controls and performance monitoring are also necessary, even if they are an imperfect means of achieving the desired goals. An MFI must also strive to create an intrinsic motivation for its employees to perform well. Like other employees, the loan officers must be able to feel a sense of solidarity with, and identify with, their institution to such an extent that this favourably influences their behaviour. This of course presupposes that the institution is one that an employee would wish to identify with; it must behave appropriately towards its customers and staff, and must ensure that it is perceived as doing so. The final component of the incentive scheme which shall be mentioned here consists of job guarantees and opportunities for promotion. In particular, those dimensions of performance that are not reflected in bonuses (e.g. cooperative behaviour towards colleagues) can be rewarded, and thus also fostered, by offering employees a credible prospect of long-term employment, including opportunities to advance within the institution. An MFI that does not cover its costs cannot give credible implicit promises of long-term employment because it will not exist in the long term, and an MFI that is not

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<sup>17</sup> For a more detailed discussion of this finding, see Holtmann (2002).

<sup>18</sup> This is also the reason why group loans are problematic and why we do not deal with them here. On this subject, see Schmidt/Zeitinger, 1998.

growing is scarcely in a position to offer opportunities for promotion. The implications of all this for the issue of governance and ownership and the overall strategy of an MFI will be discussed below.<sup>19</sup>

*b) Incentive systems for management personnel*

MFI's pursue several goals simultaneously: They are supposed to have socially relevant development effects; they are supposed to make a profit; and they are supposed to contribute towards building the local financial system by becoming stable, efficient institutions themselves. At the same time, the individuals who occupy management positions may have their own objectives, such as shirking and consumption on the job. The complexity of the institution's designated set of functions provides a particularly "favourable" environment in which to pursue individual goals at the expense of the institution, and it is difficult to monitor whether this is in fact occurring.

Management personnel at MFIs have a multi-task problem.<sup>20</sup> How strong a purely financial incentive can, and should, be in terms of motivating performance with respect to an individual dimension depends on how closely the attainment of the goal in this particular area is related to the input of effort. The closer this correlation and the easier it is to measure the attainment of the goal, the stronger the performance-based financial incentives can be. The attainment of the overarching goals of an MFI is almost always difficult to quantify, and often the link between individual effort on the part of staff in management positions and the results of their efforts is much too tenuous to allow the definition of an appropriate formula for calculating a performance-related salary, i.e. much too tenuous to enable one to regard results-based compensation as the optimal solution to the problem of motivating management staff to perform their complex sets of tasks in such a way as to maximise the benefits to the institution. Of the criteria that could be applied in this context, short-term financial results come closest to being "objectively" measurable.

If several goals are to be pursued simultaneously, the equal compensation principle applies: none of the incentives that are set for the various individual dimensions of the overall goal may be stronger than that which is set for the dimension for which the optimal incentive is weakest. From this, it follows directly that remuneration in accordance with the financial goal – regardless of the precise

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<sup>19</sup> Suffice it to say at this point that MFIs in particular should attach a very high value to qualities such as reliability, perspicacity and creativity – i.e. those qualities which are not, and indeed cannot be, covered by the bonus formulae for loan officers – when selecting staff for other positions, and especially when filling management positions.

<sup>20</sup> On the following, see Milgrom/Roberts (1991) and Milgrom/Roberts (1992), pp. 228-232.



definition of that goal – can have little more than psychological and symbolic significance, as otherwise the other goals would not be pursued with the necessary commitment and determination.

In principle, one financial incentive that could be considered for management personnel, in addition to a much higher basic salary, is a discretionary bonus. In contrast to a performance related bonus, the amount of which is a largely mechanical function of the level of measurable results, a bonus of this type can be awarded with a time-lag, and serve to reward hard-to-measure aspects of performance, including exertion of effort, and other inputs which are difficult to quantify. However, the utilisation of discretionary bonuses presupposes the existence of a body that determines the level of such rewards and is also willing to deal with the conflicts or discord within the institution that may be caused by their use.

A discretionary bonus as compensation for a manager's "overall performance" is not a panacea, however. Therefore, intrinsic motivation – by encouraging staff to identify with "their" MFI and its social and economic role, and by offering them job satisfaction, job security and opportunities for promotion – plays a key role also and especially for management personnel. If an MFI is closely associated with other institutions, this expands the range of possibilities for influencing behaviour through the prospect of professional advancement. For example, the prospect of being "promoted" to a position at a regional development bank or in an international consulting firm could certainly motivate a manager at a local MFI to behave in conformity with the complex set of objectives pursued by his/her institution. Explicit performance evaluations clearly have an important role to play in this context. Such evaluations can be carried out by other individuals, such as more senior managers, or by a board of directors, or alternatively in the form of *peer monitoring* as defined by Fama (1980).

The key short-term incentives which influence loan officers, on the one hand, and management personnel, on the other, tend to be negative from the institution's point of view. They encourage employees to shirk and to secure advantages for themselves which are deleterious to the institution. The task of "switching the polarity" of these incentives, i.e. of replacing short-term negative incentives to behave non-cooperatively with short-term positive and long-term positive incentives, is one of the most difficult challenges when building up an MFI. Given the nature of the issues involved here, this task falls within the general framework of agency theory in which the Stiglitz-Weiss model also stands. In principle, it would be possible to incorporate it more specifically into the Stiglitz-Weiss model, in which case the salaries paid would correspond to the loan amount, and the value of the work performed would correspond to the interest and principal payments. However, a formal,

model-based theoretical analysis would necessitate substantial modifications to the model, and will therefore not be discussed here.

## **5. Incentive problems relating to the initiators and owners of an MFI**

Incentive problems at an MFI exist not only at the level of lending operations and at management level, but also in the relationship between the owners of the institution, the sponsors and other persons or entities that contribute resources to promote its development, and the institution's management. This can be referred to as the "governance and ownership" level. Here the question to be answered is: What factors determine whether, in a developing country or a transition economy, a target group-oriented and financially successful institution is created in the first place, and, once it has been created, whether or not it retains the desired characteristics? These characteristics include not only a comprehensively defined target group orientation (*outreach*) and financial *sustainability*, but also the ability and willingness to continue to develop as an institution in order to supply more customers with better services on a lasting basis.

Bar a few exceptions, it is not usually the case that MFIs evolve on their own or as a result of local initiatives and merely require support from abroad. Typically they are created by development aid organisations and as such they are projects. This raises the question of which actors are involved, which goals each of them is pursuing, which incentives shape their behaviour, how they collaborate, how the incentives can be designed and influenced, and how the quality of the collaboration can be improved.

In line with current ideas and current practice, *financial institution building* projects should be carried out approximately as follows: A development aid organisation (DAO) that wishes to promote the establishment of an MFI in a particular country will seek and find a local partner institution, or at least local individuals who can act as partners, and then commissions a *technical implementer* (TI) to set up the MFI. Often, though certainly not always, the TI is a consulting firm that specialises in this kind of assignment. The institution is established by the TI, acting on behalf of the DAO, in consultation with the local partner, and is then gradually, or in a single act, transferred to the local partners, who continue to run it in conformity with the objectives and priorities of the original joint venture.

We begin the discussion by analysing an idealised relationship between the principal and the agent in the project to build an MFI. We then consider the role played by local partners, and finally we

discuss the complex relationships between the various parties involved in a modern microfinance project, i.e. the establishment of a formal MFI.

*a) Incentive and cooperation problems between development aid organisations and “institution builders”*

Already in the initial phase of a project, all of the familiar information and incentive problems are encountered: Information about the competence of the TI to carry out the assignment is asymmetrically distributed. Potential institution builders have an interest in appearing to be qualified TIs, even though they may not be, and this can lead to adverse selection. Furthermore, the task of building a financially viable target group-oriented MFI is inherently difficult, what is expected of the TI in terms of job performance cannot be defined precisely, and the chances of success appear small. The TI that has been awarded the contract is subject to the incentive to minimise its input of effort (or its personnel costs); and if the project fails, the TI will find it fairly easy to blame the failure on difficult circumstances in this particular case. In other words, the situation can give rise to moral hazard.

In order to mitigate these problems, the principal can, prior to the signing of the contract, reinforce incentives for agents to present themselves and their qualifications truthfully, and to provide truthful reports to the principal, by designing the tender procedure accordingly. And the informational asymmetry that exists after conclusion of the contract can be reduced by specifying in the terms of reference certain measurable intermediate goals that are to be achieved during the course of the project, and by monitoring the agent's performance. However, this does not mean that it would be feasible to entirely replace the negative incentives by positive incentives, i.e. that it would be feasible to eliminate agency costs altogether. Monitoring is expensive and does not always prove to be reliable, and it is seldom possible for the principal to define precisely the right measurable interim goals, i.e. to select in advance precisely those interim goals that will be most conducive to the successful implementation of the project if the agent's efforts are primarily focused on achieving these objectives.

In practice, therefore, relationships between DAOs and TIs tend to have a different basic structure: they tend to be designed with a long timeframe. Agents thus have an incentive to demonstrate their competence by achieving good results in order to improve their prospects of being awarded future assignments. They attempt to establish a good reputation – just like the local borrowers or employees of an MFI. The great advantage of this mechanism is that it also enables successes and failures that can only be clearly recognised “after the fact” to be incorporated into the incentive structure. Yet

it also has disadvantages. It creates dependencies which both sides can try to exploit. An agent can bring about a situation in which a follow-up assignment appears necessary, even though this is not really the case, and in which no other agent could be considered for the job. By the same token, a principal can attempt to appropriate for itself the economic value of the relationship-specific and project-specific (human) capital that the TI has built up. The actions of both sides can lead to a *hold-up*; the relationship of cooperation is “precarious”.<sup>21</sup> The risks which this implies can be reduced if the parties succeed in turning a recurring business relationship into a partnership characterised by an intensive exchange of information, trust, and proven options for resolving conflicts. However, principals could see such a partnership as a threat to their freedom of choice when awarding contracts, and the superiors of those officers at a DAO who transform regular, long-term business relationships with certain agents into partnerships may see this practice as being nothing more than “cronyism” rather than an economically rational attempt to limit the agency costs of an objectively justified, long-term relationship of cooperation. Here too, asymmetric information leads to a situation in which cooperation is difficult to distinguish from corruption, the costs of which would ultimately have to be borne by those who could be regarded as the real “principals”, namely the target group in the developing or transition countries in which activities are being implemented, and the taxpayers in the industrialised country whose development agency is involved.

If we attempt to transpose this particular set of circumstances to the Stiglitz-Weiss model, we find that, unlike in a credit relationship, adverse selection and moral hazard do not lead to a greater distribution of the returns, but rather tend to lower, or render negative, the expected value of the returns. Therefore, a business relationship with a TI is not advantageous for a DAO unless the TI is willing to build reputation, i.e. to provide quasi-collateral. However, if the DAO exercises its hold-up option, this corresponds in the model to the lender’s foreclosing on the collateral even though the loan has been repaid. Fear of this outcome will cause the TI to invest little in reputation-building, and – as can indeed be observed in practice – the DAOs are restricted in their choice to a small number of TIs that have not built much of a reputation.

#### *b) Incentive and cooperation problems in the relationship with local partners*

In an ideal-typical project implementation sequence, the second phase consists of the transfer of control over the MFI that has emerged from the project to local partner(s) that are usually known beforehand and were already involved in the first phase. A transfer of this kind is generally regarded

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<sup>21</sup> On the “hold-up” concept, see Klein/Crawford/Alchian (1978).

as politically desirable. From the viewpoint of the people who are ultimately supposed to benefit from such a project, however, the transfer of control to local partners is rarely a positive experience. This is not surprising, since those who are given control of matters as a result of the handover of a project are not – or at least, not normally – part of the target group which the project, as a development-policy measure, was in fact established to promote.

The typical project implementation sequence, with its endogenous incentive problems, can best be illustrated by describing so-called “upgrading” projects. In the course of upgrading, an existing institution, such as a local credit-granting non-governmental organisation (NGO), is first expanded and strengthened, and is then converted into a formal financial institution. In organisations of this type there is usually someone (or a group of people) to whom the institution “belongs” in an economic and a psychological sense. They have the authority to make decisions and as a rule they regard this fact as something positive, a view which is by no means incompatible with the intention of behaving in a socially responsible manner and helping others. For the sake of brevity, let us call these persons the founders. De facto, the project, or the institution which arose out of it, is almost always handed over to these founders.

If the first phase of an upgrading project, the strengthening of the partner institution, is successful, this tends to have a negative impact on the likelihood of success in the second phase. Prior to the first phase, as long as the local institution is small and economically unattractive, the founders will presumably be only too pleased to allow their institution to be expanded with foreign assistance, and later to be restructured and transformed into a bank, in both legal and organisational terms, even if that means that they will lose some of the influence, prestige and income that they have acquired during the first phase, e.g. because they lack the specialist banking expertise that the supervisory authority requires of persons who run banks. Yet once the first phase is over, the founders’ situation changes. They now suddenly have a lot to lose from the second phase, often much more than they expected to be “at risk” in this situation. This gives rise to incentives to behave in such a way as to prevent the second phase from being implemented. And there are considerable opportunities to follow these incentives, especially in view of the fact that DAOs typically lack the strength of will to endure the kind of conflict that would be necessary to enforce the original plan. The outcome is a highly typical stagnation of the project-supported institution – though fortunately it is often stagnation at a relatively high level.

Transposing this project scenario to the Stiglitz-Weiss model, the first phase, i.e. the founders’ gain in influence, prestige and income, would correspond to the disbursement of the loan. The second

phase, i.e. the founders' consent to behave in a cooperative manner, would correspond to the repayment of the loan, but in the absence of the potential to punish non-cooperation, it would have to occur voluntarily, an arrangement which a bank would never agree to.

*c) Donors as owners?*

To whom does an MFI that has been built with foreign support actually belong? This question cannot be answered in formalistic, legal terms. Although founders enjoy long-standing rights of ownership by virtue of their being founders, this fact in itself is not sufficient justification for their continuing to have these rights after "their" institution has undergone a fundamental transformation, thereby greatly increasing its value. Given that, in most cases, the bulk of funds used to create and operate the MFI have come from the DAOs, it is they that would seem to have a stronger claim to ownership. Yet this line of reasoning too is overly formalistic. Many MFIs are, de facto or de jure, NGOs or *non-profit* organisations, which in any case do not have any clearly defined owners. Especially in cases of this nature, control over the MFI is in the hands of those who run it, i.e. the managers. Experience has shown that this is a problematic situation. The absence of a responsible top level of governance, and hence the lack of competent and active control over the managers, is the main reason why many MFIs do not make sufficient use of their potential and often simply fail.

The managers of MFIs should be made accountable to people who have the necessary technical skills and personal attributes and also the motivation to govern the institution and exercise control. Instead of asking who the owner is, it therefore makes more sense to ask who should be assigned certain decision-making rights that are typically associated with ownership status. In the vast majority of cases, the process by which MFIs are created is organised and implemented in such a way that ownership rights can indeed be legally assigned and precisely defined.

An economic determinant of whether a given person or entity should be awarded the position of owner is whether or not that person or entity has the status of a *residual claimant*.<sup>22</sup> At financial institutions whose mission is (or should be) to promote the welfare of a certain segment of society, the true residual claimants are the members of the target group. They benefit most if "their" institution is successful, and they suffer most from its failure, which, in the present case, would cause them to lose their access to credit.

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<sup>22</sup> See Fama-Jensen, 1983

However, “the target group” is an abstract concept, not a specific person who could act and exercise control over managers. Solutions involving the appointment of representatives to fulfil governance functions are problematic because the target group also includes people who are not yet customers, and can only become customers at some point in the future if the MFI makes use of its potential for expansion. Furthermore, “the target group” – and often its representatives as well – lack the technical expertise needed to monitor managers effectively. This is, at least, an argument against regarding them as the sole owners and granting *control rights* to them alone.

A conceivable solution to the problem of who should supervise the managers and decide on the MFI’s fundamental policies and strategies is to set up a *board of trustees*. An argument against this solution, however, is the fact that it is difficult to ensure that the appointed trustees will be sufficiently interested and motivated to undertake such a role and also to stand firm in the conflict situations associated with it.

Another conceivable solution is based, in terms of its rationale, on the contributions of DAOs, the so-called *donors*, to the financing of MFIs. The DAOs that have contributed decisively to the establishment of such an institution can also be regarded as residual claimants insofar as they are likely to have an interest in the success of “their” projects, both in financial terms and from the point of view of development policy. Furthermore, they should have employees who are sufficiently well qualified to perform governance and control functions. The suggestion, put forward many years ago by one of the authors of this paper, that donors should regard themselves as responsible owners on a long-term basis, and should act accordingly, appears to run up against the same problem that would be encountered with a board of trustees: there is a lack of willingness to assume this role on a long-term basis, or such a willingness is not given due recognition and support within the DAOs in question. The donors we know of are not prepared to accept a function of this kind. The time horizon of these organisations – and specifically the (organisationally determined) time horizon of the people who intend to build their careers within them – does not appear to be long enough to enable the long-term interest in the development of “their” MFIs to outweigh the short-term interest in a low level of effort and conflict.

This leads to a regrettable conclusion: Important though it would be to do so, it seems to be quite difficult to find individuals or institutions to serve as owners in a functional or economic sense who would be willing and able

- (1) not only to monitor the executive managers of “their” MFI with regard to their routine activities, but also

- (2) to ensure that in the institution-building process, which is in effect a never-ending process, the necessary balance between development policy goals and financial goals is maintained, thus safeguarding the stability of the MFI, and
- (3) to push through the measures needed to provide for the stable but dynamic development of the institution against the interests – and resistance – of those who stand to gain from preserving the status quo and securing their own positions.

The Stiglitz-Weiss model is not applicable to the governance and ownership problem described here, because it would have to be assumed that the bank had no interest at all in recovering the loan.

## **6. How the various incentive problems are interrelated - or: “Why so many small loan projects have failed”**

In the preceding three sections we have attempted to delineate a general pattern. Over the short term, the incentives that exist for those who are better informed and whose behaviour is of essential importance for the success of the cooperation tend to be negative, i.e. they are such that an individual maximises his/her own advantages at the expense of others, even accepting damage to the other party. If this is not anticipated by the other party, the damage occurs. If it is anticipated and no way can be found to change the nature of the incentives, then the “truly” advantageous transaction or cooperation which the relationship was supposed to facilitate does not take place. This also applies in a very similar form to the relationships between an MFI and its borrowers, those between an MFI and its employees, and those that exist between the various actors whose cooperation is crucial for the creation and development of a socially relevant and economically stable financial institution.

The incentives for non-cooperative behaviour are particularly easy to recognise, and presumably also particularly effective in practical terms, in situations where the specific relationship in question is to a large extent “market- and exchange-like”, i.e. a non-recurring interaction without any personal ties between the parties.

In all of the contexts that we have discussed, there are opportunities to counter negative incentives with positive incentives to provide truthful information and to behave in a cooperative manner. Certain of the mechanisms for influencing behaviour are also short-term in nature, and are thus directly comparable to the negative behavioural incentives. This is true, for example, of physical collateral and monetary incentives that are used to influence the behaviour of loan officers. It would also be true of performance bonuses paid to institution builders to reward successes and thus



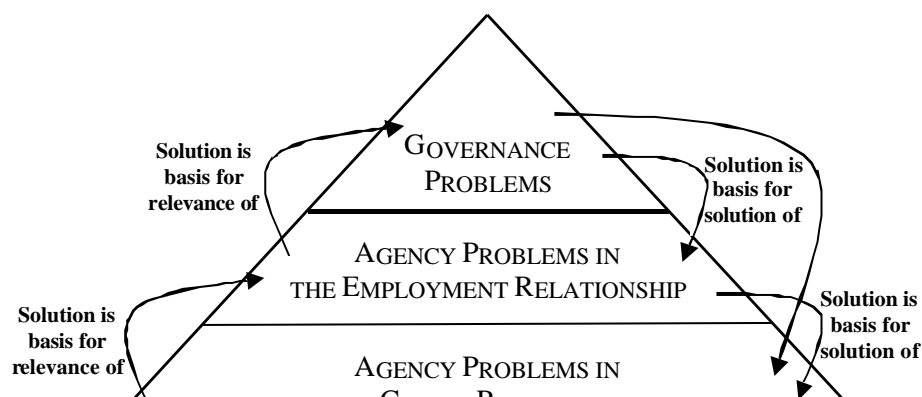
motivate them to increase their efforts. But even when designing such incentive systems, which have their intended effects over the short term, there is a long-term, or intertemporal, dimension which must be taken into account: An MFI must be willing to liquidate collateral in order to acquire a reputation for strictness; and performance-based compensation systems must be designed in such a way that they can be modified over time to reflect changing conditions, and they must at the same time be fair. As helpful as they may be in specific cases, short-term incentive systems do not solve the fundamental problem. As a rule, their inability to do so is an outgrowth of the fact that the desired cooperative behaviour has several dimensions which cannot all be observed equally well, and cannot all be influenced to the same extent by the application of incentives.

It is, however, more important to ensure that the short-term incentives to behave in a non-cooperative manner can also be countered by long-term positive incentives. Borrowers are motivated to repay by the expectation that they will continue to receive loans in the future if they meet their contractual obligations regarding interest and principal payments. If employees perform well, they expect a reward in the form of job security and opportunities for promotion, and consultants strive to achieve exceptional results in institution building projects primarily because a failure to do so would damage their reputation, and this could in turn have an adverse impact on their chances to obtain future contracts.

Thus, at all three levels there are a number of instruments that can be used to influence behaviour. In the preceding sections, we dealt with each of the three levels separately, looking at both the short-term and long-term incentive mechanisms, and also examining their relationship to each other. The general pattern that characterises the way in which they relate to each other tends not to be one of substitutability. Opportunities for advancement given to loan officers at an MFI are not a substitute for monetary performance bonuses. Rather, they are a necessary complement to such opportunities: precisely because strong incentives to perform well over the short term can be established for loan officers on the basis of easily measurable performance indicators, there is a danger that less easily measurable dimensions of performance will be neglected. This has to be countered in some way, and opportunities for promotion in particular can prove to be a suitable means of achieving the desired effect.

If we view the incentive mechanisms at the three levels in isolation, what we are able to discern will only be able to tell us a limited amount about the incentives in question. How incentives at one level

(may) function will depend on what incentives exist at other levels and on how these other incentives function. An analysis of the historical development of the three levels shows the existence of a relationship of dependence running from the bottom to the top: As long as it was not possible to grant small loans successfully, it was not necessary to think much about incentives at the level of the enterprise because loan defaults in any case accounted for by far the largest share of the costs. Then it became apparent that it is easier to recruit staff for the credit department, and that they will be more dedicated and more willing to work hard, if the credit technology used by the institution produces high repayment rates, and if they themselves also benefit from the good financial performance achieved by the institution in its lending business. And, quite logically, no one focused on the governance structure until it was clear that the problems at the level of the enterprise could be solved. However, the relationship of dependence between the various incentive problems and incentive systems is not a “one-way street” running only from the bottom to the top, as could be inferred from the preceding discussion. It also runs from the top to the bottom (see Fig. 5): Experience has shown that a borrower’s willingness to repay a loan depends above all on two factors. One is the borrower’s relationship with “his” or “her” loan officer. If the loan officer is not motivated both extrinsically and intrinsically, i.e. if he/she is not subject to the correct incentives, he/she will not perform his/her tasks well and his/her customers will quickly become “problem borrowers” for the MFI. The second factor is the likelihood that the borrower will also receive a loan at some point in the future when he/she needs one. And this, in turn, depends decisively on the sustainability of the MFI, i.e. on whether it will continue to exist over the long term. The experience gained in a great many microfinance projects gives grounds for assuming that this is not very likely to be the case, and this same experience clearly shows that the symptoms of crises at MFIs – and, specifically, crises at the management level – very quickly become visible in the form of repayment problems. This underscores that the way in which the institution in question is managed, monitored and financed is of crucial importance. And, as has already been emphasised, the way in which these functions are fulfilled is strongly dependent on the way in which the incentives for the management personnel, the



initiators of the project and the owners have been designed.

Fig. 5: Microfinance as a set of interconnected incentive problems

The situation as regards the institution's staff members is analogous. Their incentives to perform well are largely a function of how they see their future prospects as employees of their institution and how they assess the prospects of the institution. Often, a decline in employees' willingness to work hard, a high staff turnover rate and acts of fraud should not be seen as the causes of a crisis, but – like repayment problems – interpreted as an indication that a crisis is emerging.

Finally, there are also more complicated relationships of dependence that need to be taken into consideration. The effectiveness of monetary incentives for loan officers is ultimately determined by how the borrowers view the future prospects of the MFI, and specifically by how they assess its stability, and by the way in which they behave as a reflection of these assessments. Even the most sophisticated incentive system for loan officers will prove unworkable if it is implemented at an unstable bank.

Thus, the relationship between the incentive systems can be characterised as one of interdependence. If incentive systems at one level collapse, this will result in chain reactions at the other levels. And this in turn suggests that, as a practical matter, the task of designing the incentive systems is not one which can be fulfilled satisfactorily if one deals with only one of the three levels in isolation. An analysis of microfinance clearly demonstrates that incentive systems really are systems, i.e. they can only function if all of their constituent elements fit together and complement each other.<sup>23</sup>

## 7. Networks are the solution

Overall, the experience gained over approximately the last ten years in building MFIs has been mixed. On the one hand, we have learned that if an appropriately designed credit technology is used, it is possible to issue, at a reasonable cost to both the institution and the borrowers, small loans which will be repaid; and that it is possible, at an acceptable cost to the international donor community and in a relatively short time, to build MFIs which are not only able to cover their costs but in

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<sup>23</sup> Incentive systems are only one "pillar" of the "organisational architecture" of an institution. The other two are the allocation of decision-making authority and the way in which the success of individuals' performance is measured. On this point, see Brickley/Smith/Zimmerman, 1997, pp. 172-191. The proposition that the individ-

fact generate a profit and have socially desirable impacts. We have also learned that the problems involved in lending and those entailed in “running” MFIs can be solved using a largely standardised approach even though these institutions operate in widely differing environments.

However, not all of the experience has been positive. The success rate for institution-building projects in the area of small-scale lending has been disappointingly low. The conventional approach, i.e. *upgrading*, which was described in section 5, has often not produced the desired results. Differing notions of what constitutes a good MFI, and thus of how the ultimate goal of the project should be defined, have given rise to conflicts within the “troika” consisting of a DAO, a TI and one or more local partners, and the transfer of control over projects to local partners has frequently led to stagnation at the partner institution and/or to a shift away from the target groups it was originally intended to serve. In many cases, these problems have also had negative repercussions on the employees of the MFI and on the borrowers’ repayment behaviour.

There are two other important lessons which have been drawn from the experience of recent years: No single DAO has at its command all of the promotional instruments that are needed to build an MFI. And many of the problems that must be solved in *financial institution building* are encountered again and again in a very similar form. Particularly if this feature of the institution building process is to be exploited in strategic terms, it makes sense for the same group of actors not only to carry out individual, isolated projects, but rather to implement a series of such projects in relatively rapid succession. But this would require an input of personnel and financial resources that would far exceed what any individual DAO could provide.

In our opinion, the conventional strategy of building individual MFIs in isolation, and with the financial support of individual donors, should be replaced with a strategy based on cooperation. This strategy would have to be embraced and implemented by a relatively small group of DAOs, or – and this is a very important point in the present context – by a relatively small group of persons within these DAOs that have a shared notion of what constitutes a good MFI and what makes for a meaningful strategy of institutional development. Working in collaboration with an experienced *institution builder* or *technical implementer*, this group will be in a position to utilise the various instruments at its disposal to build a number of MFIs in rapid succession, and also to perform the important

functions of the institution's owners, including that of monitoring its development and performance. Moreover, the MFIs created in this way will form a network, among whose component parts not only knowledge but also qualified personnel, and perhaps also financial resources, can flow.

The structure and mode of operation, as well as the advantages, of a network of this type have been described in considerable detail elsewhere.<sup>24</sup> Here we will restrict ourselves to a discussion of the incentive-related issues. There are three incentive problems which a network – or “strategic alliance”, as it could also be called – proves to be better at solving than does the conventional strategy, and given the interdependence of incentive problems as outlined in section 6, this also has repercussions on other elements of the incentive systems. As will become apparent immediately, the fact that incentive problems are interdependent is important in a general sense in terms of understanding how the network functions.

(1) The incentive problem for mid- and high-level managers (and other staff at these levels) can be mitigated if the institution in which they work is developing and expanding rapidly, if it offers them challenging tasks, if it can pay its employees well, if it is well regarded in the social environment in which it operates, if it is growing, and above all if it offers its staff members opportunities for advancement. If several DAOs<sup>25</sup> and a well-qualified and well-motivated TI promote an MFI and also remain actively involved in its development after the completion of the initial establishment phase, then both the chances of success for the venture and the staff members' opportunities for advancement will be good, and this will be of decisive importance when it comes to motivating the employees.

Particularly for exceptionally well qualified staff, the fact that an individual MFI is part of a network of affiliated MFIs means that they will also have opportunities to be ‘promoted’ to jobs at other institutions within the group. This could prove to be problematic because the “transfer” of a good staff member from one institution to another might of course have a detrimental effect on the institution to which the employee was initially assigned. In economic and legal terms, such a transfer represents a shift of assets. But if the institutions that are involved all have more or less the same

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<sup>24</sup> See Schmidt/Zeitinger, 2001, who describe a specific network. There are, however, other groups of institutions that would qualify as networks in the sense in which the term is used here; at the very least, the one that has been created by ACCION could be cited.

<sup>25</sup> Here it is essential to ensure that the organisations in question embrace the above approach to institution building and actively support its implementation.

owners, and if such shifts of assets occur fairly often, there will not be anyone who would suffer a loss as a result of the “promotion”. The “corporate group” has an interest in ensuring that the best staff members are assigned to the specific positions where they are most urgently needed and in ensuring that it can motivate them by offering them “promotions” of this type. This may take precedence over the interests of the individual institutions, even though, in legal terms, a “corporate group” does not even exist.

(2) As was described in section 5, one key incentive problem is that which exists in the relationship between the principal and the agent in the institution building process. In the context that has been delineated here, the agent is the TI who is a member of the network. Regardless of the specific legal arrangements that have been defined, the DAOs that are part of the network can be regarded as the principals. But there are also other actors that can be viewed as the principals, namely those who are the owners of the MFI in a legal sense. And while these two groups are not identical, they do overlap, and this overlap is intentional. It is important for the TI to be obliged to achieve the goals set by both groups of principals, i.e. to be required to achieve both the developmental and financial goals that have been defined for the project. The fact that there are two sets of objectives can lead to conflicts, but if these conflicts can be discussed openly among the partners in the network and resolved directly by them, they will have far less serious repercussions for the successful implementation of the projects than they would if the conventional approach were applied. It can be expected that this positive effect will be achieved above all in situations where the network includes both private investors who tend to be more interested in financial results and other institutions which are more interested in achieving developmental objectives. Provided the appropriate coordination mechanisms have been installed, and that they are working properly, this will ensure that priority is not given to one of the two sets of goals to the complete exclusion of the other, but rather that a balance is invariably struck which, in the final analysis, advances the objectives of both groups.

In view of the basic structure of short-term incentives, it is essential to be able to put pressure on the TI to perform well, and in this context the network provides opportunities to compel the TI to “prove its reliability”, i.e. to demonstrate its commitment and competence. The fact that projects are implemented in relatively quick succession, and the fact that the cooperative relationship is intended to be long-term in nature, put strong pressure on the TI to prove itself to be a conscientious, well-qualified and reliable partner. For one thing the net present value of the principal-agent relationship is still considerable even if the TI makes (or must make) a great effort in order to ensure the success of the

project. For another, it will not be in a position to attribute poor results in more than just a few projects to the presence of unfortunate circumstances. In view of the value of the principal-agent relationship for the TI, this in turn eliminates the incentives which it might otherwise have had to minimise its own costs at the expense of others. At the same time, the design of the collaborative relationship creates scope for varying, “differentiated” responses to situations in which it appears that the TI has not made its best effort to achieve the goals that have been defined. In addition to *exit* – the classic instrument that is used to induce an agent to prove its reliability, and whose use would in some cases amount to “overkill” in the context we have delineated – in a network, where *loyalty* is in fact present and plays a functionally important role, the instrument *voice* – as defined by Albert Hirschman – will also be utilised.<sup>26</sup>

(3) Finally, there is the incentive problem which is encountered after the completion of an initial, narrowly defined establishment phase, and which was also mentioned above. Institutions that have provided support for the establishment of an MFI may subsequently prove to be unwilling to oversee its ongoing evolution with a view to ensuring that it is stable, that it is developing as intended, and that it remains firmly committed over the long term to serving its designated target groups. They do not wish to function as “active and responsible owners”. In other words, they do not have an adequate incentive to function as economic (co-)owners, even though it would presumably be in the best interests of the target groups, and of the MFIs’ staff members, for them to do so.

There are a number of possible reasons for this type of behaviour and for the existence of the incentive problem of which it is a reflection. One reason might be the existence of strategic priorities which make it appear advisable from the standpoint of development policy for a given DAO to “withdraw” from a project completely. But a desire to reduce costs or the simple desire to avoid having to take on additional tasks can also be responsible for the unwillingness to assume the functions of an owner. An interest in reducing costs or reducing the input of effort at the expense of others is usually an outgrowth of incentive problems. In other words, it is a product of the incentive structure that is in place within the institution. And for this incentive problem as well, the network offers at least a partial solution.

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<sup>26</sup> See Hirschman (1970)

The first step here must be to change the conviction that, in financial institution building, it is, or could be, beneficial from the point of view of development policy for a DAO to completely terminate its involvement in institutions it has helped to establish. Not only does the opposite view appear (to us) to make more sense from the standpoint of development policy; it is also one of the foundations for the consensus on which the functioning networks of which we are aware are in fact based.<sup>27</sup> The notion that DAOs should assume a certain amount of responsibility over the long term for the institutions they promote is, however, not just something that has grown out of firm convictions regarding developmental strategies and priorities. It also results from an analysis of very tangible, specific interests, and of (quantifiable) costs and benefits. If the members of the network are also owners of the MFIs, and if, as organisations, they take their obligations as owners seriously, they will also have a direct financial interest in ensuring that “their” MFIs develop as planned. And if these institutions are commercially oriented and perform successfully, the owners’ financially-motivated interest in overseeing and guiding the development of these entities should be relatively strong.

In addition, the organisations and the relevant members of their staffs may have an interest in promoting the successful development of the MFIs. If the organisations and the responsible individuals in these organisations have entered into a publicly visible commitment to serve the best interests of “their” MFIs, then this should strengthen their incentive to make use of their legal and financial ownership position to play an active ownership role in the institutions.

It should be noted, however, that, here as well, there is a problem of time-inconsistency which must be addressed: At most DAOs, staff members presumably stand a better chance of enhancing their professional reputations and their images in the public and political sphere if they participate in the creation of a new MFI than if they are actively involved over a long period of time in work having to do with existing MFIs. As a result, every DAO will prefer to become involved in the new projects rather than continuing its involvement in the old ones. But if they all behave in this way, the new projects – not to mention the old ones – will have no chance of succeeding. Fortunately, though, the network offers its members opportunities to coordinate among themselves regarding the exercise of active monitoring – which is a “public good” that is important for all of the owners – as well as opportunities to prevent *free-rider* behaviour in this area. Specifically, in an extreme case, a member

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<sup>27</sup> Networks which fall into this category, and the conditions that must be met in order for them to be capable of functioning, were described and discussed at the "Fourth Seminar on New Development Finance", which was



of the network which did not meet its monitoring-related obligations even though it was an owner of MFIs would have to be forced to leave the group, or at least to terminate its involvement in certain of its projects. In view of the loss of reputation that would be caused by such a step, and given the considerable sunk costs of a relationship-specific nature that are incurred in the process of building a network, the threat of this type of “punishment” will probably have a positive incentive effect.

In view of the points raised in the preceding discussion, it can be assumed that if a group of institutions and persons that collectively have considerable resources at their disposal, and are in a position to mobilise additional resources from external sources, engage in close but flexible cooperation over a long period in a network, it will be possible to arrive at better solutions to the incentive problems faced by MFIs – above all, those which are particularly hard to deal with effectively – than have been feasible with the conventional approach to building such institutions. It almost goes without saying that implementing this institutional solution may create other problems, including incentive problems. It remains to be seen whether individuals’ incentives to pursue their own personal goals at the expense of others can in fact be monitored effectively – and curbed to the necessary extent – in a network. But given that MFIs are much more likely to be successful if they are initiated and operated by a network, the network creates value for its members. Thus, for their part, the participating institutions have a substantial incentive to create the kinds of internal incentive systems needed to motivate their staff members to perform the functions of active and responsible owners. And the better the performance of the staff members in fulfilling these functions, the greater will be the value of the MFIs, and hence the value of the network. This creates a “virtuous circle”, as the higher value of the network in turn increases the incentives for the DAOs to motivate their staff members.

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