



**Consultative Group to Assist the Poorest (CGAP)
Working Group on Savings Mobilization**

MICROSAVINGS COMPARED TO OTHER SOURCES OF FUNDS

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ABBREVIATIONS

ATM	Automatic Teller Machine
BAAC	Bank for Agriculture and Agricultural Cooperatives
BCS	Banco Caja Social
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
BRI	Bank Rakyat Indonesia
CD	Certificado de Depósito
CGAP	Consultative Group to Assist the Poorest
FECECAM	Fédération des Caisses d'Epargne et de Crédit Agricole Mutuel / Benin
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit GmbH
IMI	Internationale Micro Investitionen Aktiengesellschaft
LA-CIF	Latin America Challenge Investment Fund
MFI	Microfinance Institution
NGO	Non-governmental Organization
RBP	Rural Bank of Panabo

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1 INTRODUCTION

The case studies in this volume provide a convincing evidence that the microfinance sector is by far not only a credit market. Against the widespread belief that poor people cannot save, there is a tremendous demand for savings products. Experience has shown, however, that it is not enough for a financial institution to design savings products and bring them on the market to successfully enter into the deposit business. In order to take full advantage of savings as a source of funds, microfinance institutions (MFIs) have to be aware of the implications regarding costs and risks involved with the deposit business.

The following paper discusses the various aspects of savings as a source of funds compared to other sources of funds as equity, commercial loans, grants and others. Starting with an examination of the liabilities structure of traditional banks and non-bank financial institutions, the specific risks involved in funds management are reviewed in a second step. Finally, the differences between the funding strategy of MFIs and traditional financial institutions are examined to provide insights into the existing obstacles for commercializing and "popularizing" the sources of funds in MFIs.

2 SOURCES OF FUNDS IN TRADITIONAL FINANCIAL INSTITUTIONS

Traditional financial institutions such as commercial banks generally use various providers of resources, including depositors and credit institutions, which is reflected in a complex liabilities structure. In principle, liabilities are comprised of a variety of deposits from the private and public sector - demand deposits, passbook savings, time deposits, certificates of deposit - and borrowings from other banks and the central bank (discounts or advances, purchase of another bank's excess reserves through the central bank, repos etc.).

Capital can also be considered a source of funds with certain specifics. Apart from generating liquidity for financial intermediation, capital is risk cushion of last resort to fall back on. While some risks can be determined and foreseen with a certain probability (such as loan loss risks, see following section), other risks such as the macroeconomic environment and market competition are beyond the control of financial institutions. In the first case, sufficient risk provisioning should be ensured through cautious reserve-building or active risk mitigation. In contrast, a strong capital base should prevent from insolvency when financial institutions pass through difficult periods of adjustments due to external shocks or internal deficits.

The core resources used in commercial banks are comprised of deposits from the public. From a historical perspective, deposits have always been the primary source of funds. This has been true independently from the regional or cultural context in which banks or non-bank financial institutions have developed. It is also true for any time period in history, though their share in the commercial banking sector in the United States for example has declined from 95% of total liabilities until the early 1970s to 80% in the mid-1990s (Hempel/Simonson 1999). Another interesting finding is the fact that there are substantial differences in the liabilities structure according to the bank size in terms of assets. A study about US commercial banks reveals that with 97% of total liabilities being comprised of demand, savings and time deposits, the small commercial banks (less than US\$100 million in assets) rely much more on deposits than the big commercial banks (more than US\$10 billion in assets) with a deposits' share of only 69% (Hempel/Simonson 1999).

Small deposits from individual customers are often the largest segment of these deposits and represent the most diversified and stable funding source. In general, passbook savings are the lowest overall cost source of funding currently available to traditional financial institutions. This is due to the fact that these deposits bear lower interest rates compared to time deposits and have lower administrative costs than demand deposits with a considerable turnover. Mobilizing deposits from the public, however, requires a conducive environment, which instills confidence in the financial sector. Macroeconomic stability and a high level of solvency and efficiency in financial institutions contribute to the confidence that is required for any type of financial transactions with the public.

In some countries, state-owned enterprises may also be important depositors. Their funds, however, might be much more price-sensitive than private sector deposits and their volatility might make liquidity management difficult for those financial institutions where these deposits represent a large portion of total liabilities. Some financial institutions might act as a government clearing center. However, these funds are often temporary and represent illusory liquidity or vault cash that cannot be used for onlending purposes. The reason for this is that the largest portion of these government funds is immediately disbursed as salaries to civil servants or monthly payments to pensioners.

Another source of funds are borrowings from credit institutions that involve both commercial banks such as the central bank. Interbank borrowings are a normal part of financial institutions' liquidity management and include borrowings with agreed maturity or at call. The central banks have developed various instruments to refinance financial institutions. Rediscount facilities of commercial trade paper work alongside discount facilities of

government securities and other short-term funding instruments. In principle, full-fledged financial institutions are required to show liquidity reserves with the central bank in their country. However, banks in difficulties might have an overdraft with the central bank. While this can be part of a short-term bail-out program, overdrafts over an extended period of time indicate that the central bank is unable to interfere appropriately in a troubled financial institution.

As borrowings from the money market are costly, they are largely short-term transactions with a considerable level of volatility. As a consequence, even those commercial banks with extensive access to various borrowing options often refrain from large inter-bank borrowings and prefer deposits from the public as their primary source of funds. These banks prefer to offset the higher administrative costs of deposits with larger funding spreads.

In many developing countries, inter-bank operations include off-shore banking that entail foreign exchange risks (see below). Though sometimes the foreign exchange risk is absorbed through a government guarantee, most financial institutions refrain from relying on foreign funds and prefer to develop their own domestic resource base.

Where capital markets are well developed, financial institutions use long-term debt instruments to mobilize resources. Bonds are attractive both to depositors and financial institutions. On the one side, they produce a steady income for their owners and provide anonymity. On the other side, bonds are usually issued for several years and are a stable funding source for financial institutions.

Capital is the most expensive source of funds. In general, shareholders require a high risk premium to accept a subordinated position compared to depositors or other creditors of a financial institution. Capital costs include dividends and retained earnings as the latter contributes to increasing the net value of the financial institution so that the combined effect of both aspects helps to attract new capital. Additional costs comprise disclosure costs for developing prospectus to issue shares.

According to the Basle Committee in 1988, banks should hold capital equivalent to 8% of their risk-weighted assets. As overcapitalized financial institutions find it difficult to compete with financial institutions with lower capital ratios, they try to maintain the lowest possible level of capital without inducing interference from the supervisory authorities. Current efforts to reform the Basle capital adequacy ratio and bring it up to date are likely to produce significant changes (Graham 1999a, 1999b). First, it is expected that the previous five risk categories that largely concentrate on credit default risks will be replaced by a broader spectrum of risk weighing categories. While some bankers suppose that the capital adequacy ratio will be decreased to around 6.25% of risk-weighted assets, this reduction might be offset by requiring an additional capital cushion for operational risks. However, a lot of discussion is currently taking place over how to realistically assess operational risks and determine the respective capital cushion to cover these risks.

3 COSTS AND RISKS INVOLVED IN THE FUNDING STRATEGY

Any financial institution seeks the lowest-cost mix of funding sources. Sound funds management is essential to ensure that a sufficient volume of low-cost funds are available on time for the intermediation process. Apart from the interest expenses that represent direct financial costs, the minimum reserve requirements set by the central bank produce additional indirect financial costs. Through these legal stipulations, a certain percentage of funds is excluded from the intermediation process and represents idle funds with no or little earnings. Costs do not only involve the direct and indirect financial costs described above but also the administrative costs to identify, mobilize and administer these funds. In addition, the types of funding sources that a financial institution employs in the intermediation process carry various risks that impact on the financial institution's cost structure. Financial institutions incur direct costs from risks when these undermine the efficiency of operations. Indirect costs occur when financial institutions employ techniques to protect themselves against risks, e.g. through hedging strategies.

The analysis of the direct financial costs involved in various sources of funds shows that the by far most expensive funding source is equity. This is the consequence of the risk premium that providers of equity require compared to other sources of liabilities. In general, borrowings from the central bank and other commercial banks rank second in terms of the interest payment that must be paid to obtain these funds. This is due to the fact that these borrowings often are last-minute sources of funds that are used in case of unexpected liquidity shortfalls. It is evident that the price for obtaining liquidity from other financial institutions mobilizing resources that the borrowing financial institution is unable to attract itself is high: Apart from the interest payments to the depositors and administrative costs that are incurred in the lending financial institutions, the borrowing institution must pay a premium for immediate liquidity. Certificates of deposit and time deposits bear lower interest rates compared to the borrowings from the inter-bank market. However, as these sources of funds generally mobilize large amounts of long-term funds from generally interest-sensitive corporate and individual customers, they are remarkably more expensive than passbook accounts. As the latter represent immediate liquidity for the depositor and generally involve small amounts, interest payments are low. The lowest-cost source of funds in terms of direct financial costs are noninterest-bearing demand deposits.

Indirect financial costs depend on the legal reserve requirements of the central bank. Historically, minimum reserves in many developed countries have been employed for deposits only so that they compare unfavorably with other sources of funds that are exempted from reserve requirements. Within this scenario, minimum reserves generally differ between the types of funds attracted and have been higher for demand deposits compared to passbook savings and time deposits.

Administrative costs consist of the costs involved in mobilizing and processing funds per monetary unit and include various cost items such as product design, marketing, and managing the storage and transaction of funds. Due to the high number of transactions and the necessity to maintain a large delivery system easily accessible for the customer (e.g. ATMs, phone and internet banking), demand deposits involve the highest operating costs. In consequence, many financial institutions use service charges to compensate at least partly for these costs. The operating costs of passbook accounts can be close to those of demand deposits where depositors frequently withdraw and deposit money. Time deposits are much less expensive as they have a predetermined maturity date that limits transactions to one deposit and one withdrawal. Time deposits generally involve larger amounts so that the marginal operating costs compare favorably to other short-term and smaller deposits. Information costs are high with providers of equity as they wish to be kept well informed about the performance of their investment. However, the marginal information costs are relatively low as the equity composition generally shows few, but large investors. As

interbank market instruments are largely standardized and mobilize large amounts of funds, their marginal administrative costs are very attractive for borrowing institutions.

Risk costs can substantially increase operating costs (Arshadi/Karels 1997; Barltrop/McNaughton 1992; Hempel/Simonson 1999). As equity is the risk cushion of last resort and is affected only once the risk predicting and mitigating techniques have failed, only the risk effects that arise from different sources of funds and that impact on liquidity management are analyzed in this section. The impact of various risks on the solvency of financial institutions and on its net value is not discussed here. Two primary risks can be distinguished that arise from the funding composition of any financial institution:

- Liquidity risk; and
- Interest rate risk.

In addition, three risks can be identified that relate to the financial intermediation process and interact with the other two risk categories:

- Credit loss risk;
- Foreign exchange risk; and
- Concentration risk.

All five risks together can seriously undermine the liquidity position and, hence, operations and profitability.

Liquidity risk refers to a mismatch of maturities of assets and liabilities. Financial intermediation is the transformation of size, terms and risks of liabilities into loans or other financial assets. Most financial institutions are attracted by the interest differentials gained through transforming low-cost, short-term funds into higher-priced, longer-term loans. However, well-performing financial institutions ensure that depositors' demands are covered at any time through a reasonable balance between short-term, mid-term and long-term funds and a reasonable maturity structure of assets.

Effective projections of cash outflows and cash inflows are essential for identifying liquidity gaps in a timely manner and to care for provision-making. These projections must be as complete as possible and also assume a realistic growth rate of loans and deposits. A positive liquidity gap indicates that more cash will leave the institution than can be anticipated to be obtained. In such a situation, the institution must mobilize additional funding to cover the supposed liquidity deficit. In contrast, a negative liquidity gap implies that a cash surplus exists that can be invested. The earlier the financial institution is aware of negative or positive liquidity gaps, the more time it has to identify the most cost-effective tools to fill the liquidity gap, either through exploring options for cheap funding or good investments.

Most financial institutions forecast their liquidity position on a monthly, weekly or even daily basis. This requires sophisticated systems that combine target-setting to achieve an envisaged level of profits with a historical track record of liquidity movement, reflecting patterns of customers' past financial behavior, and current market trends.

It is obvious that financial institutions that show a funding composition with a large portion of stable funding will face less liquidity risks than those institutions where the overall stable liquidity cushion is small. The overall conclusion seems to be that medium- and long-term funds represent a better liquidity cushion than short-term funds such as demand deposits and passbook accounts. This picture, however, is incomplete. Empirical evidence in many financial institutions has shown that volatility of funds does only partly correlate with the maturity structure of funds, but rather depends on the level of roll-over of accounts on an aggregate basis. It is therefore important to combine the analysis of the funding composition in terms of their maturity with other factors such as the seasonality of transactions and the

vulnerability of funds to external factors. Time deposits can increase the liquidity risk of a financial institution when the aggregated time deposits base reacts to seasonal factors. When all depositors manage their time deposits in such a way that they become due, for example, before Christmas and will not be renewed, financial institutions will face severe liquidity risks at that time. The roll-over of time deposits on an aggregate basis will also be hampered in financial markets with severe interest rate competition. As customers with time deposits and large customers (which are often the same) are remarkably interest-sensitive, they will immediately change institutions when higher interest rates are offered. In contrast, demand deposits and passbook savings often represent a large liquidity cushion with a significant level of stability. Though the turnover of the individual accounts might be considerable, the overall stability of these accounts on an aggregate basis seems to be the general rule in most financial institutions.

Reviewing the liquidity planning of many traditional financial institutions, among the most stable sources of funds are equity, long-term deposits, certificates of deposit and a large bulk of stable demand and passbook savings. Volatile sources of funds that encompass high liquidity risks are comprised of seasonal deposits, short-term borrowings from the interbank market and those deposits that are vulnerable to interest changes or other market trends.

Another key issue to mitigate liquidity risk is the access to appropriate liquidity instruments. Daily liquidity management is facilitated with access to well-developed overnight financial markets. Other efficient liquidity tools include highly marketable securities that can be sold any time when liquidity problems rise.

Interest rate risk occurs as a consequence of mismatching the term structure and a different interest sensitivity of liabilities and assets. In general, money and deposit markets respond relatively quickly to market changes through increasing or decreasing interest rates, while interest rate adjustments in the credit market often lag behind. Central bank funds are the most interest rate sensitive funds as they adjust on a daily basis. Large certificates of deposit might be sensitive to changes of the market rate within a couple of days to weeks. Time deposits will also react to interest rate adjustments according to their maturity. If the majority of funds are short-term and the largest share of the loan portfolio is medium- and long-term with fixed interest rates, increasing short-term funding costs would substantially squeeze profits as the financial income from lending could not be raised accordingly. It is evident that the interest rate risk will increase with the increasing maturity gap between short-term funding (with variable interest rates) and long-term lending (with fixed interest rates).

Using derivatives is an important strategy to redistribute the interest rate risk among interested parties. Derivatives are financial instruments whose performance is derived from the performance of some other asset. Hedging is the primary strategy to protect financial institutions against risks, including forwards, futures, options and swaps. Collars are the predominant instrument to mitigate interest rate risk. They combine a cap (upper limit of interest rate) with a floor (lower limit of interest rate) where borrowing financial institutions shield themselves against interest-rate increases obtaining security by giving up the economic benefits of potential interest-rate decreases. Derivatives can be quite complex, including a combination of various types of derivatives producing swaptions (options on swaps), futures on interest rate swaps etc.

In addition to the two genuine risks that are associated to the financial institutions' funding composition, credit loss, foreign exchange and concentration risks have an indirect effect on the liquidity and interest rate risks and, hence, on the liquidity position of financial institutions.

Credit loss risks arise from a situation when borrowers do not repay according to their loan agreement. The liquidity position of the financial institution deteriorates as it receives a smaller cash-flow than planned. Credit loss risks therefore increase liquidity risks as

matching the term structure of liabilities and assets becomes increasingly difficult in face of a deteriorating loan portfolio performance.

Minimizing credit loss risks requires considerable investments in obtaining information on the borrowers, close monitoring during the loan cycle and strict enforcement of loans. Through these measures, the problem of moral hazard or opportunistic behavior of borrowers should be reduced and external risks realistically assessed. As the loan portfolio often represents the largest portion of assets, mitigating default risk is of utmost importance to safeguard liabilities.

Foreign exchange risk is the result of an unreasonable balance between the liabilities and assets that are denominated in a foreign currency. Particularly in countries where confidence in the financial sector has decreased in face of macroeconomic instability, a remarkable portion of deposits might be held in US dollars. As the objective is to shield against uncertainty of the future, particularly long-term deposits such as time deposits and CDs are made in foreign currency. If the loan portfolio is largely comprised of loans in local currency and a depreciation of the local currency takes place, financial institutions will face lower profits as interest expenses will increase significantly over interest income from lending. Foreign exchange risk therefore adds to the problem of interest rate risk and asks for a similar solution - appropriately matching the foreign exchange structure of liabilities and assets.

Borrowings that are denominated in foreign currency show severe limitations when banks are unable to recognize and manage the direct and indirect risks involved in these operations. Direct foreign exchange risks include foreign currency losses when the financial institutions have fully assumed these risks. Indirect foreign exchange losses occur where the financial institutions have passed on foreign exchange risks to their borrowers through largely dollar-denominated loans which the borrowers are unable to repay in face of a considerable devaluation of the local currency. From this perspective, foreign exchange risks represent a special credit loss risk.

In the same way as interest rate risk can be reallocated among willing parties through financial derivatives, foreign exchange risk can also be mitigated through an adequate hedging strategy. The risk exposure in such a hedging strategy can be remarkably reduced by locking a financial institution into a fixed exchange rate at present.

Concentration risk exists when financial institutions depend on few large providers of funds or few large borrowers to repay. Once these few depositors withdraw their savings or large borrowers default, there will be a substantial cash outflow in the first case and a large gap between expected and real cash inflow from loans in the second case. Both situations will produce a remarkable pressure on liquidity management. A high level of concentration in liabilities and assets may therefore exacerbate existing liquidity risks. The diversification of the loan portfolio to reduce this type of risk therefore must be applied in the same way to the liability structure. The larger the number of depositors and borrowers and the lower the average size of deposits and loans, the lower the concentration risks.

In conclusion, financial institutions face the following costs and risks:

- Costs:
- Direct financial costs: Interest expenses and commissions.
 - Indirect financial costs: Opportunity costs for funds that cannot be used for intermediation because of minimum reserve requirements or other regulations.
 - Administrative costs for mobilizing and processing funds.
- Risks:
- Liquidity risk:
 - Direct costs: Difference between actual income/expense that arises from liquidity surplus/deficit and expected income/expense in case of optimal liquidity management.
 - Indirect costs: Commissions and administrative costs of hedging instruments.
 - Interest rate risk:
 - Direct costs: Difference between the actual gross financial margin and the gross financial margin in case of optimal matching of assets and liabilities.¹
 - Indirect costs: Commissions and administrative costs of hedging instruments.
 - Credit loss risk ⇒ Impact on liquidity risk.
 - Foreign exchange risk ⇒ Impact on interest rate risk.
 - Concentration risk ⇒ Impact on liquidity risk.

The following graph illustrates the linkages between the different cost and risk categories per source of funds. It compares the importance of costs and risks in mobilizing and administering various sources of funds in relative terms. In case of risk costs, the graph shows the aggregated results of various risk categories, which, however, is difficult to do as not all risks perfectly correlate. In addition, it is difficult to express the risk costs in monetary units because they involve opportunity cost considerations. Therefore, the determination of risk costs as shown in the graph are rather based on a qualitative assessment.

Each source of fund is represented through a triangle or rectangle that links the respective cost or risk position. The closer the lines of the respective triangles or rectangles are to the center, the lower are the respective cost items or risks involved in mobilizing and managing the different funds.

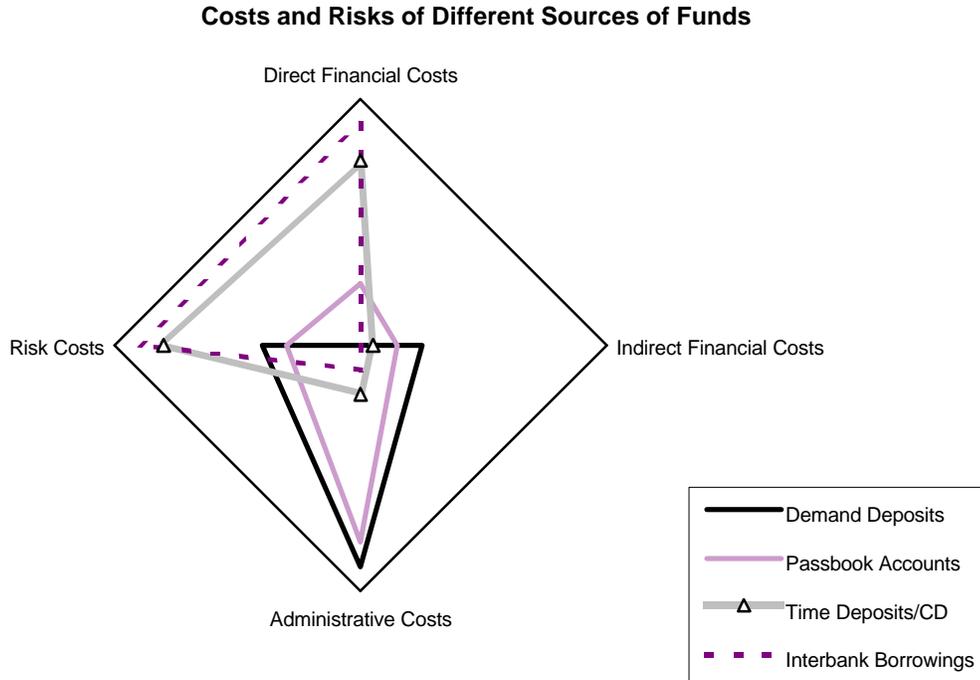
Demand and passbook savings, for example, have low direct financial costs and bear indirect financial costs that, however, are much lower than direct financial costs. They produce relatively high administrative costs compared to other funding options but generally entail low risks as a large portion of aggregate demand and passbook savings represent a stable liquidity cushion.

Time deposits, certificates of deposits and interbank borrowings represent a different paradigm. Low administrative costs partly offset high direct financial costs. However, their risk costs can be significant considering the volatility of these funds (high liquidity risk) and price-sensitivity (high interest risk). In addition, compared to demand deposits and passbook

¹ This refer to the aggregated effect of the difference between actual income that arises from loans and other financial investments and income in case of optimal matching of asset and liabilities structure and the difference between actual expenses for deposits and borrowings and expenses in case of optimal matching of asset and liabilities structure.

accounts, the level of concentration and participation of foreign exchange accounts of these funds is often higher, which increases liquidity risk.

Graph 1



Information on the costs of mobilizing and administering equity is not included in this graph. Equity costs include very high direct financial costs and relatively low administrative costs so that the respective graphic illustration would be a line that goes from the top angle of the big rectangle to below the center point similar to the triangle of interbank borrowings.

4 SOURCES OF FUNDS IN MICROFINANCE INSTITUTIONS

Microfinance institutions (MFIs) differ substantially in their funding strategies compared to the traditional financial institutions described above. Three categories of MFIs can be identified according to their primary funding source:

- Full-fledged financial intermediaries such as commercial banks with emphasis on microclients;
- Savings-driven financial institutions such as savings and credit cooperatives and self-reliant village banks; and
- Donor-driven non-government organizations (NGOs) with special microlending programs.

Both the full-fledged financial intermediaries and the savings-driven institutions generate a large fraction of their funds through mobilizing deposits, but differ insofar as the former have a larger array of sources of funds as described above for traditional financial institutions. In contrast, the third group (NGOs) is largely funded by grants and soft loans provided by donors or governments and only develops weak links with commercial financial markets. The reason for the distorted liability structure in many MFIs is the almost exclusive focus on credit delivery. Though the perception that low-income people only need credit has been shattered for years, many donors and microcredit institutions have not embarked on a strategy that promotes loans and savings, insurance and payment services as financial services in their own right.

Many MFIs, particularly those of the third category, have been funded with grants and soft loans from donors and governments, totally or partly covering operating expenses and providing loanable funds. These direct subsidies are justified during the start-up phase because MFIs are often newcomers in financial markets and not mature enough to tap funds at market rates. This particularly applies to NGOs that usually do not qualify for commercial funds because banks are reluctant to lend to institutions without a proven track record. Due to limited economies of scale and scope in the early stages of institutional development, MFIs may be unable to afford commercial funds. Finally, NGOs often suffer from legal constraints inhibiting the mobilization of voluntary savings for onlending.

Free or soft funds, however, also impose severe limitations. The scarcity of these subsidies and the fact that donor and government support is often volatile and transitory makes it difficult for MFIs to sustain themselves with this funding base. MFIs whose overall objective is massive credit delivery require stable and abundant sources of funds that react flexibly to the demand for credit. As many microcredit programs apply the so-called graduation principle in their lending operations, increasing the size of repeat loans according to their repayment record of previous loans, it is essential to mobilize sufficient funds to sustain this process. Once MFIs suffer from liquidity shortages and must resort to loan rationing, the incentive for on-time repayment will be weakened. In consequence, the arrears rate is likely to increase, which will further deteriorate the liquidity position of the financial institution, producing a snow-ball effect that can lead to technical bankruptcy of the institution.

Subsidized funds lack clear ownership and can therefore distort incentive structures and undermine sustainability. Without owners that are interested in producing an appropriate return on equity there is little interest to improve operational efficiency. When funds are available for free, awareness for risks involved in lending operations will also be weak.

Finally, donor prevalence in MFIs might distract their management when it has to cater more for the interests of the financing donor agencies than providing the best possible services to their customers. By the same token, clients' perception can be influenced by the funding source. Donor-driven MFIs might be considered less permanent and reliable than financial institutions using commercial funds, creating moral hazard that reduces the quality of the

loan portfolio. From this perspective, grants and soft loans, even though effective in the short run, constitute second-best options for funding in the long-term.

Commercial loans provided by wholesale financial institutions are an important market-based funding instrument. The interbank market is an important source of funds for commercial banks and has also become increasingly relevant for mature NGOs. Their advantage is that they are a continuing source of large amounts of funds. In contrast to below market-rate funds, commercial loans provide appropriate incentives and discipline to MFIs because good governance and management performance are important prerequisites for getting access to wholesale banks. However, while administrative costs are low, the financial costs of commercial borrowing are relatively high. Further to this, in many countries commercial loans must be backed with guarantees, which some MFIs are unable to provide.

The most important financing mechanisms for full-fledged financial intermediaries and savings-driven financial institutions are deposits. Three types of deposits can be distinguished:

- Compulsory or forced savings;
- Wholesale deposits of large customers that particularly use time deposits; and
- Certificates of deposits and small and microsavings such as demand accounts and passbook savings.

Many MFIs have experimented with compulsory savings as collateral substitutes and as an instrument to instill thriftiness and discipline among their clientele (Wright et al. 1997). While compulsory savings might be successful in educating borrowers and contribute to high loan recovery rates, they increase the effective costs of borrowing. With compulsory savings, MFIs tie savings into credit and offer it as an integrated package where borrowers do not have a choice to obtain a loan without locking part of their funds in a forced savings account. This perspective largely ignores the fact that deposit facilities are an independent financial service that is appreciated particularly among low-income clients that seek secure and liquid deposit facilities.

Compulsory savings reduce MFIs' possibilities for increasing outreach. First, the number of potential borrowers limits the number of depositors. Second, as compulsory savings represent only a fraction of loans outstanding, MFIs are unable to mobilize significant volumes of deposits to finance the lending business. In consequence, MFIs that want to attain high levels of market penetration must mobilize voluntary savings over the long run. However, the credit plus compulsory savings approach will render the transition to voluntary deposit services difficult for both the clients and the institution (Robinson 1997). Clients will not easily entrust their savings to institutions that have only a historical record in the lending business. From an institutional perspective, the shift of the corporate strategy toward full-fledged financial intermediation requires adjustments of product design, delivery systems and information systems. However, the biggest challenge is the creation of the human resources that will actively market deposits and seek market opportunities. This requires a service culture that acknowledges that customers make deliberate decisions over their deposits rather than having to be educated in savings.

Empirical evidence has demonstrated that voluntary deposit facilities are most successful in incorporating customers that have been reached by microcredit institutions. In addition, voluntary deposit facilities mobilize significant amounts of funds. Wholesale voluntary deposits from institutions or individual customers attract large amounts of funds from a small number of large customers at relatively low administrative costs. These deposits can either be in the form of large passbook savings, time deposits or certificate of deposits and bonds. Even more so than commercial loans, wholesale depositors provide appropriate incentives for good governance and management performance. This effect can be furthered by the fact

that in most countries deposit-taking institutions must be licensed and supervised by regulatory authorities.

Wholesale deposits, however, are neither cheap nor risk-free. Attracting wholesale deposits involves high financial costs as large depositors in general seek the highest-profitable financial investment. Large deposits are often sensitive to interest rate changes and can therefore be volatile. In addition, wholesale depositors request complementary financial services including overdrafts, credit cards, and money transfers. Broadening the array of financial services according to the demands of large depositors will lead to high investment costs. Furthermore, the ensuing change of corporate culture and identity may cause MFIs to abandon their original target group, the microclients. The concentration of funds in the accounts of a few depositors raises liquidity risks and decreases management autonomy when these institutional depositors interfere in operations. Finally, being submitted to a regulatory and supervisory body has cost implications, i.e. costs for obtaining the license and being supervised and indirect financial costs because of minimum reserve requirements.

Mobilizing small voluntary savings that are largely stored as demand deposits or passbook savings enables MFIs to satisfy an effective demand of microclients. With deposit facilities for the low-income clientele, the outreach of microfinance institutions will be simultaneously broadened and deepened. Given an overall conducive macroeconomic environment, small voluntary savings can mobilize large amounts of funds that are more stable than other funding sources. Though small savings can be captured at low interest costs, the small size of transactions might disproportionately raise administrative costs. This disadvantage, however, can be offset by the synergies created through economies of scope between savings and lending. Information costs and loan loss provisions are expected to be less when MFIs can draw on the deposit histories of potential borrowers to analyze their capacity to pay and creditworthiness. As a net effect, overall operating costs will be significantly reduced.

Another important argument in favor of small deposits is that savings mobilization provides incentives and discipline for MFIs to improve their operational efficiency and service culture. Finally, small savings can also contribute to good loan performance as borrowers are more likely to repay when they know that they use their own and their neighbor's deposits.

In contrast to other sources of funds, however, mobilizing small voluntary savings requires more sophisticated management skills and a comprehensive institutional set-up. Requirements are particularly higher in the areas of risk and liquidity management, internal controls and information systems. Special attention must be given to the composition of the depositors. Particularly in rural areas, seasonal income and expenditure can have a negative impact on the liquidity position of MFIs if they are not able to produce an appropriate mix of customers whose deposits and withdrawals offset each other on an aggregated basis.

Similar to MFIs that mobilize wholesale deposits, depositories that wish to attract small deposits will be regulated and supervised so that they will incur the respective costs. As a full-fledged financial institution integrated into the national financial system, they will probably also be affected by minimum reserve requirements that increase their indirect financial costs of intermediation.

Attracting capital is probably the largest challenge for any MFI in broadening its funding base to include risk-bearing resources. In some countries, depositories are required to maintain capital in a certain portion of their deposits. Common stock is true risk capital whose owners participate *pari passu* in the earnings, but also in the losses of the financial institution. Therefore, capital is the most stable funding source as it cannot be easily withdrawn. In this case, capital is used as a leverage device for additional funds. Another advantage is that capital entails true ownership rights. In principle, owners are interested in increasing their

profits and avoiding losses, which provides a strong incentive to ensure sound management and efficient operations.

However, as has already been emphasized, capital is the most expensive source of funds as providers of capital only assume higher risks than depositors in exchange of a sufficiently high risk premium. This risk premium includes regular dividends and retained earnings that produce an additional return when shares are sold. As has already been stressed above, owners generally ask for an active disclosure policy for determining the potential profits and losses on a realistic basis. This might be particularly true for MFIs that bear a new industry risk (Berenbach/Churchill 1997). In consequence, any private investor will require full transparency of information at any time and probably ask for higher returns compared to less risky investments. However, strong profit-orientation - though instilling efficiency in financial intermediation - might result in shying away from the original target group and reorienting operations towards better-off clients.

Table 1: Comparison of Different Sources of Funds

Sources of Funds	Advantages	Disadvantages
Grants, soft loans	<ul style="list-style-type: none"> Facilitate lending institution start-ups; Substitute for commercial funds that wholesale financial institutions will not or cannot provide; Substitute for deposits that cannot be mobilized due to legal restrictions. 	<ul style="list-style-type: none"> Lack of ownership; Lack of market-based incentives to ensure sustainability; Volatility and scarcity of funds does not allow for sustained institutional growth; MFI more donor-oriented than client-oriented; Clients' perception of the institutions as donor-driven.
Commercial loans	<ul style="list-style-type: none"> Large amounts of funds can be mobilized on a permanent basis; Low administrative costs; Incentives for good governance and management. 	<ul style="list-style-type: none"> High financial costs; High guarantee or collateral requirements.
Compulsory deposits	<ul style="list-style-type: none"> Facilitate access to loans for the very poor; Instill thriftiness and discipline. 	<ul style="list-style-type: none"> Inhibit future mobilization of voluntary savings; Increase effective costs of borrowing; Low volumes of funds mobilized; Number of depositors restricted to number of potential borrowers.
Wholesale deposits - Time deposits / CDs	<ul style="list-style-type: none"> Large amounts of funds can be mobilized; Low administrative costs; Incentives for good governance and management. 	<ul style="list-style-type: none"> High financial costs; High liquidity risks (volatility) due to concentration; Large depositors may require complementary financial services (overdrafts, credit cards etc.); Large depositors may interfere in operations; Eventually, costs due to external regulation and supervision and minimum reserve requirements.
Small and micro deposits - Demand deposits and passbook accounts	<ul style="list-style-type: none"> Satisfy an effective demand for savings facilities of microclients; Large amounts of stable funds can be mobilized on a permanent basis; Low financial costs; Synergies between savings and lending reduces operating costs; Even stronger incentives for good governance and management. 	<ul style="list-style-type: none"> Possibly higher administrative costs compared to other sources of funds; Higher institutional requirements in treasury management, controls, etc.; Eventually, costs due to external regulation and supervision and minimum reserve requirements.
Capital shares	<ul style="list-style-type: none"> Risk-bearing funds; Most stable funding source; Leverage device for liabilities; Owners generally interested in increasing profits through sound management. 	<ul style="list-style-type: none"> High capital costs due to risk premium required by owners; High information costs; Profit-orientation might reorient financial institutions towards better-off clients.

5 MANAGEMENT CAPABILITIES IN MFIS TO DIVERSIFY THEIR FUNDING BASIS

The discussion about funding strategies in microfinance institutions is largely influenced by the prevalence of NGOs in the microfinance industry that often show weak management capabilities. It is evident from the review of the cost structure and risk mitigating techniques that MFIs that wish to operate a diversified liability structure, including a large portion of small deposits, require sophisticated management skills:

Cost pricing of deposit facilities is a challenge for most MFIs. While MFIs often set their interest payments on deposits close to the market rate, determining the total costs of savings accounts including variable and fixed operating costs, indirect financial costs and a cushion to shield against risks is more difficult. This requires a comprehensive accounting system that enables MFIs to cost-price each of its financial services on an individual basis. Particularly the calculation of variable operating and risk costs depends on the number of transactions and the duration of loans and deposits. In consequence, MFIs must have in-depth knowledge of the financial behavior of customers in order to determine a gross financial margin that is high enough to cover total administrative expenses and provide for risk provisioning.

Liquidity risk can be as much of a problem for MFIs as for traditional financial institutions. Non-bank-MFIs, particularly NGOs that incorporate deposit services at a later stage of their institutional development, will find it difficult to appropriately forecast their liquidity position. On the one side, implementing effective liquidity planning devices might be a technical problem as software systems must be adjusted. On the other side, reliable liquidity projections require an in-depth knowledge about depositors' behavior and a historical track record of cash outflows and cash inflows. Where customers were always borrowers, little information might exist on their savings portfolio management.

However, empirical evidence from MFIs that successfully operate as depositories demonstrates that liquidity risk does not necessarily have to be larger or more threatening than in traditional financial institutions. Though many low-income depositors prefer interest-bearing deposits without specific maturity, aggregated passbook accounts produce quite a stable liquidity cushion in microdepositories. Particularly a large diversified deposit base as it exists in Banco Caja Social (BCS) in Colombia, Bank for Agriculture and Agricultural Cooperatives (BAAC) in Thailand and Bank Rakyat Indonesia (BRI) facilitates balancing cash outflows from withdrawals with cash inflows from deposits in passbook savings. But small depositories with a local or regional focus can also create a fairly stable liquidity cushion with traditional passbook savings. As research in the Rural Bank of Panabo (RBP) of the Philippines indicates², roughly 40% of the depositors with passbook accounts carry out 4-50 transactions per year. Though the number of these transactions increases in periods of political and economic instability, the overall liquidity cushion, calculated on an aggregate basis, remains stable. Particularly low-income depositors care for maintaining a balance in their savings accounts that is high enough to protect against insecurities of life. Therefore, they wish to replenish the account as soon as possible once they had to withdraw money due to an emergency.

Efficient liquidity management that ensures a sufficiently high liquidity cushion while keeping the level of non-performing assets as low as possible requires well developed financial markets that offer overnight deposits or direct access to short-term financial instruments of the central bank. In most countries, these short-term money markets are weak. Even where they are more developed, MFIs will find it difficult to qualify for them. In this case, MFIs might create their own liquidity pool or network by joining forces. However, organizing an efficient liquidity exchange between MFIs also requires sophisticated management and controls. The

² See: Rural Bank of Panabo (RBP), Philippines (Case Study), Ulrich Wehnert

case studies on the village banks in Mali, FECECAM in Benin and the RBP in the Philippines that are included in this compendium provide further insights.

Concerning interest rate and foreign exchange risk, not all MFIs are affected in the same way. Those MFIs that exclusively offer short-term financial products that are denominated in local currency do not have to develop risk mitigating techniques in this area. While some MFIs have also managed to strike an appropriate balance between the maturity structure of liabilities and assets, many MFIs are already engaged in comprehensive financial intermediation, transforming small short-term deposits into larger, longer-term loans. This intermediation process entails interest rate risks that can become quite significant in countries with unstable macroeconomic conditions or where competition in the microfinance industry is strong and, hence, interest rate adjustments are frequent. In addition, some MFIs operate in countries where dollar-denominated accounts are common and foreign exchange rates are flexible (e.g. Bolivia) so that their operations face foreign exchange risks. Employing hedging instruments appropriately to mitigate these specific risks, however, is an extremely demanding task and requires sound financial expertise and good techniques for forecasting market trends.

Most MFIs have created innovative techniques to reduce credit loss risks such as substituting traditional collateral through peer pressure or "artificial" guarantees. Some target groups, however, represent a complex risk profile and find it difficult to provision against emergencies. Smallholders, for example, face covariant risks in agriculture that make them a high credit risk. Therefore, the screening of potential borrowers and an appropriate portfolio mix are crucial for MFIs to reduce their risk exposure and ensure high levels of repayment. As the Finansol example from Colombia shows, once the loan portfolio starts to deteriorate, a domino effect produced through accumulated late payments and, hence, an increasing positive liquidity gap can endanger the survival of the entire financial institution. This situation could be sustained for a certain time when the financial institution could manage to lock in long-term funds that cannot be easily withdrawn in face of a portfolio crisis. In contrast, large repayment problems can quickly become evident and cause insolvency when the short-term deposit base quickly erodes as cautious depositors immediately react and withdraw their savings.

MFIs with a very diversified loan portfolio, comprised of numerous small or microloans, do not face concentration risk that show. In contrast, the liability structure of many MFIs is less diversified and builds on few large donor grants, commercial borrowings or deposits from institutional depositors. The level of concentration risk or the dependence on few providers of funds is high. This risk could only be offset by diversifying liabilities, particularly through developing the small deposit base.

If the primary objective is the provision of full-fledged financial services, including loans and savings - and hopefully in the future also payment and insurance services - for people who have not had access to the formal financial sector, one pragmatic solution is the development of simply designed loan and deposit facilities. The product design must contribute to reducing matching problems as both lending and deposit services are either exclusively short-term or deposit services are only offered as long-term time deposits. Concerning the latter, on the one side, this may conflict with the interest of small depositors to have immediate access to their funds. On the other side, time deposits are generally more interest-sensitive and can produce liquidity risk at the time of maturity. By the same token, interest rate risk can be reduced by exclusively using flexible interest rates. Foreign exchange risk is eliminated when operations are exclusively denominated in local currency.

As a consequence, deposit facilities should be simple enough to address the limited management capabilities. However, in some cases this strategy might be too simple to address the diversified demands for financial products of the target group. Well-performing depositories such as BRI offer demand deposits, passbook savings and time deposits to a

large number of customers. This, however, is only possible when the asset-liabilities management is sophisticated enough to cope with the broad array of financial products and the complexity of transactions.

As a consequence, we would argue for starting with few, simply designed loan and deposit services at a time and diversify the liabilities and the loan portfolio at the pace of management capabilities. However, in contrast to this scenario, much theoretical reflection and research today is devoted to the graduation of NGOs from donor-driven credit-only institutions into full-fledged financial intermediaries with formal legal status. The intermediate stages would encompass a period when NGOs partially replace cheap donor and government funding with commercial loans, which would later be complemented by large deposits from institutional savers before mobilizing small deposits.

6 DONOR STRATEGIES CONCERNING THE FUNDING STRATEGY OF MFIS

Many donors and governments try to promote and facilitate the graduation of MFIs into the commercial financial market. Various vehicles to channel funds into mature MFIs have been employed over the last decade. Where financial markets are underdeveloped or commercial lenders are not available, it was argued that apex organizations sustained by donor and government funds should compensate for these shortcomings. A recent study commissioned by CGAP (Gonzalez-Vega 1998), however, concludes that apex organizations can be successful only in an already developed microfinance market. But in countries with such markets most MFIs already qualify for commercial loans. As a consequence, apex organizations do not provide any additionality but rather offer redundant services: Donors should refrain from promoting these institutions.

Another widespread instrument that should help MFIs borrow directly from local banks are donor or government guarantees constituted by stand-by letters of credit from prime international financial institutions. More sophisticated intermediary guarantees to enhance the direct access of these MFIs to international bond and securities markets are still at an experimental stage (Young et al. 1997). In this context, the idea of loan securitization has become attractive but also raises concern about the small size and short term structure of these operations and the foreign exchange risks associated with international bonds (Montagnon 1998).

In Latin America, where some of the most mature MFIs operate, venture capital funds such as PROFUND were created in the 1990s with donor support to take equity stakes in MFIs (Silva 1998). These regionally focused organizations are complemented by efforts made through international investment companies. The Triodos-Doen Foundation, founded in 1994, participates in the equity of microfinance institutions all over the world and provides loans as well as guarantees to them. The most recent initiatives in this field include the Internationale Micro Investitionen Aktiengesellschaft (IMI) established in mid-1998, and LA-CIF, a regional fund for Latin America providing various capital market instruments, to be launched in June 1999. Rating agencies that analyze MFIs for commercial lenders and investors have also attracted donor interest.

While some well-known MFIs such as BancoSol and Caja Los Andes in Bolivia have successfully embarked on the process to transform from a credit-only NGO into a full-fledged financial institution, graduation is not an automatic process and should not be considered the microfinance paradigm for the next millennium. In fact, the actual impact of the instruments reviewed above is insignificant if we look at the microfinance industry as a whole and not only at individual institutions. After ten years of stimulating linkages between MFI-NGOs and the local and international capital market only a limited number of MFIs actively use capital market instruments and the impact on their liabilities structure is insignificant. Out of a worldwide sample of 72 MFIs analyzed in the MicroBanking Bulletin (1998), only half of them use market-priced funding, which finances only an average of 36% of their loan portfolio. Even the 26 fully sustainable MFIs of this sample fund an average of only 37% of their loan portfolio with market-priced funds. Given this negative picture, efforts to transform credit-only MFI-NGOs into depositories seems to be even less promising.

If the enthusiasm for NGOs in microfinance continues, the crowding out of market-based funding and savings mobilization through the continuous provision of soft funds will also be perpetuated. Most NGO-MFIs will probably never reach the level of institutional maturity required to tap domestic and international capital markets. These institutions will find it even more difficult to adjust their organization, procedures and corporate culture to become qualified depositories. The original emphasis on perfecting microcredit delivery systems may result in substantial institutional tensions for NGOs that want to become full-fledged financial intermediaries at a later stage. Finally, initial investments in deposit facilities and acquiring

the necessary management skills may be costly, and most NGOs will find themselves ill-equipped to absorb these costs.

7 CONCLUSIONS

If we apply to savings mobilization CGAP's recommendation for donors to "pick the most promising horses" (Rosenberg 1998), more attention should be paid to savings-driven, full-fledged financial intermediaries and their role in attracting small deposits. If donors want quick results, NGOs might be the most promising horses for rapid implementation of standardized microcredit programs for the poor. However, if long term sustainability is the ultimate goal, full-fledged financial services must be provided to microclients already at an early stage of institutional development. As this requires institutional complexity, demand-oriented product design and a clear service orientation, commercial banks and savings-driven institutions will be a better choice. These institutions often have more appropriate incentives in terms of ownership, sound governance and internal control systems as prerequisites for savings mobilization. While savings-driven institutions such as savings and credit cooperatives and village banks are able to manage simple savings and loan products, commercial banks might be better qualified for handling a large array of different financial services and their respective risks.

This leads us to the conclusion that deposit facilities are an essential service for microclients, but only technically and financially sound MFIs should embark on this business. Deposit-taking is definitely not for everyone. This conclusion should not be watered down, even if many MFIs that are credit-only institutions today will be crowded out by full-fledged financial intermediaries over time.

At present, few commercial banks are actively engaged in the microfinance business. However, empirical evidence clearly shows that competitive pressures at the corporate, upper-end of many financial markets push commercial banks into new lower-end, high margin markets that are traditionally covered by NGOs (Baydas et al. 1997). This leads us to the conclusion that more and more commercial banks will become part of the microfinance industry over the next years.

Most savings-driven institutions that cater for small depositors such as village banks, savings and credit associations or cooperatives are community-based or focus on a specific region and, hence, have a limited outreach. In many countries, savings and credit cooperatives also have a mixed record in terms of financial performance and institutional sustainability. However, there are strong indications that village banks successfully develop networks that allow for economies of scale and scope. In case of the savings and credit cooperatives, new regulations such as in Bolivia attempt to induce a consolidation of the sector through mergers and the introduction of demanding performance standards. In consequence, these institutions will become more important as depositories for the economically disadvantaged.

In this context, donors and governments have an important role to play in further developing the microfinance industry. First and foremost, donors and governments must decide whether the ultimate goal of their development finance strategies is the replication of standardized credit delivery systems for the poor, or the provision of full-fledged financial services. Once this decision is made, donors and governments should consider how to bet on the right horses on the right track. Minimum standards must be fulfilled before MFIs engage in deposit-taking, and the following chapters of this book provide some insight in this direction. On the one side, these insights will help MFIs without deposit facilities to gain a realistic picture about the adjustments required for implementing deposit facilities successfully and whether they are willing and prepared to meet this challenge. On the other side, the lessons presented below can help donors and governments learn more about the characteristics of the most promising horses in savings mobilization and how to identify them.

8 REFERENCES

- Arshadi, N., G.V. Karels, *Modern Financial Intermediaries and Markets*, London: Prentice-Hall International 1997.
- Barltrop, C.J., D. McNaughton, *Banking Institutions in Developing Markets, Vol. 2, Interpreting Financial Statements*, Washington, DC: World Bank 1992.
- Baydas, M.M., D.H. Graham, L. Valenzuela, *Commercial Banks in Microfinance: New Actors in the Microfinance World, Microenterprise Best Practices (MBP) Project*, Bethesda MD: DAI 1997.
- Berenbach, S., C. Churchill, *Regulation and Supervision of Microfinance Institutions - Experiences from Latin America, Asia and Africa, No. 1*, Washington, DC: Microfinance Network 1997.
- Gonzalez-Vega, C., *Microfinance Apex Mechanisms: Review of the Evidence and Policy Recommendations, Report prepared for the CGAP-OSU Research Project on Microfinance Apex Mechanisms*, Columbus OH: OSU 1998.
- Graham, G., *Banks outraged by Plan for Cushion on Operational Risk*, in: *Financial Times*, 5 March 1999, p. 18, 1999a
- Graham, G., *Regulators ponder Capital Adequacy Rules*, in: *Financial Times*, 5 March 1999, p. 4., 1999b
- Hempel, G.H., D.G. Simonson, *Bank Management --Text and Cases, 5th Edition*, New York: John Wiley & Sons 1999.
- The MicroBanking Bulletin, A Publication of the Microfinance Program at the Economics Institute, Boulder CO., No. 2 (July) 1998.*
- Robinson, M.S., *Introducing Savings in Microcredit Institutions: When and How?*, CGAP Focus Note 8, Washington DC, 1997.
- Rosenberg, R., *Independent Review of UNCDF Microfinance Activities, Special Unit for Microfinance*, New York: UNDP 1998.
- Silva, A., *Taking Equity in Microfinance – The PROFUND Experience, Second Annual Seminar on New Development Finance at the Goethe University of Frankfurt, 21-25 September 1998.*
- Wright G., M. Hossain, S. Rutherford, *Savings: Flexible Financial Services for the Poor*, in: Wood, G.D., I.A. Sharif (eds), *Who Needs Credit? Poverty and Finance in Bangladesh*, London/New York: ZED Books 1997.
- Young, R., L. Goldmark, R. Londoño, *Microfinance Guarantees. A Basic Primer and Review of Experiences in Latin America and the Caribbean*, Inter-American Development Bank, Sustainable Development Department, Microenterprise Unit, Washington DC 1997.