



Foreign Exchange Risk and Microfinance Institutions

A Discussion of the Issues

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Table of Contents

INTRODUCTION	3
MFIS AND FOREIGN EXCHANGE EXPOSURE	3
LENDING, FOREIGN EXCHANGE RISK, AND RISK HEDGING	6
A BRIEF DISCUSSION OF POSSIBLE HEDGING INSTRUMENTS	8
COUNTERVAILING FOREIGN EXCHANGE DEPOSITS	9
DOLLAR/DOMESTIC CURRENCY SWAPS	13
BORROWING AND ON-LENDING	16
DOMESTIC CURRENCY GUARANTEES BY A FOREIGN FINANCIAL INSTITUTION	17
GUARANTEES THROUGH A SECONDARY MARKET	18
MORE CONVENTIONAL FOREIGN EXCHANGE INSTRUMENTS	19
FORWARD CONTRACTS	19
NON-DELIVERABLE FORWARDS	21
CURRENCY FUTURES	21
OPTIONS	22
ARE THERE OTHER WAYS OF DEALING WITH FOREIGN EXCHANGE RISK?	23
THE PROBLEMS OF MFI INVESTORS	23
FOREIGN EXCHANGE RISK AND MFI INVESTORS	23
Types of Hedging Instruments Available	23
Regulations and Inefficiencies in Local Banking Systems	24
Problems in Dealing with Local Bank Regulations	24
The Result - High Transactions Costs	25
ASSESSING THE DEGREE OF FOREIGN EXCHANGE RISK	25
THE FEASIBILITY OF FOREIGN EXCHANGE RISK INSURANCE	27
BOND ISSUES	29
REMITTANCES AND MICROFINANCE	29
SECURITIZATION	30
RECOMMENDATIONS AND CONCLUSIONS	32
GENERAL FINANCIAL MARKET REFORM	33
SECURITIZATION OF MFI PORTFOLIOS	33
REFORMS NECESSARY FOR SECURITIZATION	34
WHAT SHOULD BE DONE IN THE MEANTIME?	34
USING CURRENCY POOLS FROM THE INTERNATIONAL FINANCIAL INSTITUTIONS.	35
EXPERIMENT WITH DIFFERENT INSTRUMENTS.	35
ARE SUBSIDIZED INTEREST RATES THE ANSWER?	35
DONORS AS INVESTORS	36
NEW INSTRUMENTS AND THE ROLE OF DONORS	36
THE SEARCH FOR A SOLUTION – THE FINAL WORD	38
BIBLIOGRAPHY	39

Introduction

As Microfinance Institutions (MFIs) increasingly accept loans from foreign investors, they are faced more and more with the issue of how to handle foreign exchange risk. It is a relatively new problem for them and one with which they have little familiarity. As loans and investments from foreign sources rise, however, either the MFI or foreign investor are faced with having to handle the currency risk. But, since MFIs operate in developing countries where financial markets are underdeveloped, and because the sums involved are small, the well established methods of the international financial markets to deal with this issue are rarely useful.

The increasing importance of this problem is a result of the very success of the microfinance movement. The number and size of MFIs is growing around the world. Microfinance is a popular instrument for poverty amelioration, particularly amongst the international finance institutions (IFIs.) As a result, MFIs have no shortage of funds either available through local banks or through donors and foreign fund managers. With the foreign funding, however, comes the need to deal with foreign exchange risk. In addition, because of financial market underdevelopment, domestic liquidity in most developing countries is notoriously variable and in many cases, expensive. Currently, it is available, but that could change. When it does, and as the MFI industry continues to mature, the necessity of dealing with foreign exchange risk becomes more urgent. This paper, aims to promote discussion regarding possible instruments so that solutions are identified well before they become a critical priority. Discussing this issue now, could also lead to the development of new instruments so MFIs will have more options when they deal with foreign currency risk in the future. It will also hopefully serve a call to action on the need for financial market reform in most developing countries.

Local capital markets in developing countries are often thin and offer a very limited range of financial instruments. Currently they are able to supply financing to MFIs. But whether this will continue in the future is uncertain as the

microfinance industry develops and financing needs increase. There are a number of problems with the local capital markets. First, the financing that is available to MFIs is generally short-term – one to two years. Second, the loans are callable by the domestic banks with short notice, which increases risk for MFIs. Third, the financial market underdevelopment means that using effective long term financial instruments is near impossible, implying that MFIs will increasingly have to look abroad for longer term capital injections. MFIs lend in local currencies but receive investor or donor contributions in foreign currencies. Therefore, parties to such transactions are exposed to foreign exchange risk through the process of debt servicing. Mechanisms for hedging such exposure are clearly required. While foreign exchange risk hedging is by no means a new concept and one that the mainstream international financial markets are well equipped to handle, when it comes to microfinance it is a relatively new issue.

This paper aims to provoke discussion of the issues involved in such transactions. It will begin by examining the nature of foreign exchange risk and the impact on MFIs. A discussion follows of the instruments available to MFIs and their foreign investors – those instruments currently used and those that could potentially be used to deal with foreign exchange risk. It points out that the current vehicle used to deal with forex risk, in the vast majority of cases, is no more than an expensive substitute for local borrowing – borrowing that reflects the MFIs' need to improve their credit standing with their domestic banks rather than for foreign financing.

The paper also examines how commercial lenders and donors can be involved with this issue and how commercial lenders could be encouraged to provide funds to MFIs. It suggests that reform of domestic financial markets is the best long term solution to the problem and that donors and foreign investors should be making this point to governments and the IFIs. Ultimately, the argument for financial system reform as the best solution to financing microfinance institutions is overwhelmingly strong. In the meantime, there is need to prepare for the immediate future so that MFIs have instruments available to them that they can use to cope with currency risk.

MFIs and Foreign Exchange Exposure

The number and size of microfinance lenders is growing around the world. Experience has shown, however, that successful MFIs outgrow donor funding. In addition, MFIs cannot rely exclusively on microfinance remaining a popular choice by donors in the long run. Nor should it. Evidence suggests² that subjecting MFIs to commercial criteria bolsters their efficiency, improves their long term viability and makes them far more effective intermediaries. The successful institutions are also more than ready to relinquish their reliance on donor funding. Tapping alternative domestic sources of capital, however, is not easily achieved. Domestic capital markets in most developing countries are severely underdeveloped³. They are characterized by the predominance of commercial banks in lending and a lack of second tier financial institutions. This limits MFI's financing options and makes the available financing expensive because of inefficiency of the banks as well as the lack of competition. While MFIs have been successful in using the funding from the IFIs and other donors as a means of encouraging domestic banks to lend to them, this financing has limitations created by the underdeveloped financial markets. As a result, domestic funding is short term, callable with short notice, and the markets cannot effectively issue long-term financing such as securitized bonds. (Securitization does occur in some developing countries, but the legal standing of these financial instruments is often questionable because of limitations such as the creation of a floating charge. When challenged, these agreements have often been found to be inadequate.)

Problems associated with the collateral framework for securing loans in many developing countries, Latin America in particular⁴ creates difficulty with pledging assets and means that domestic banks are reluctant to provide funding

² See Data from MicroRate. See also Holden, Paul, Sarah Holden and Jennifer Sobotka, *MicroCredit Institutions and Financial Markets*, the Enterprise Research Institute, Washington, DC, 2003.

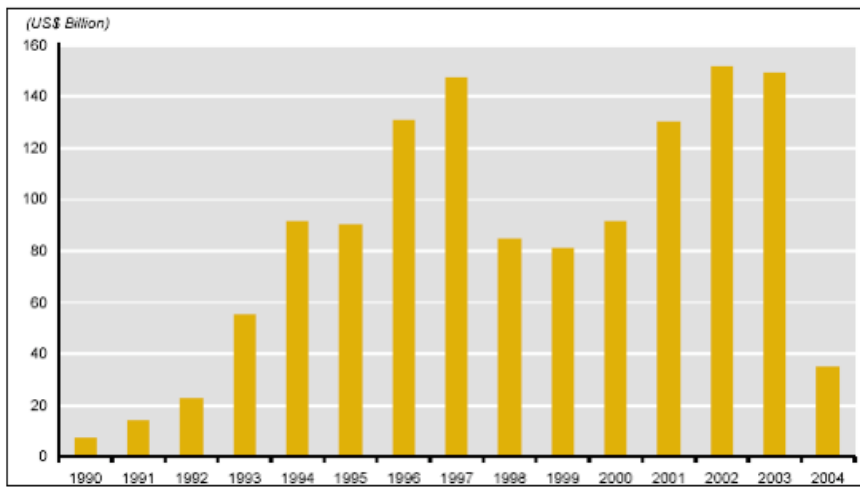
³ See Holden, Paul and Vassili Prokopenko, *Financial Development and Poverty Alleviation: An Overview*, in *Financial Development and the Unbanked, Labor Markets and Social Frontiers*, South African Reserve Bank, April, 2003

⁴ See *MicroEnterprises and Collateral*, Center for the Economic Analysis of Law, Washington DC, 2002

to new MFIs. This limits the entry of new MFIs to the market and reduces competition in the sector. The situation is exacerbated by the IFIs focusing their attention on the established MFIs and the need of MFIs to rely on donors as a means of boosting their credit rating with domestic banks. This situation also reduces competition by limiting the entrance of newcomers.

Problems with the secured transactions framework impacts established MFIs as well. Since accounts receivables cannot be used as security for loans in most developing countries, the value of high quality loan portfolios, with low default rates is reduced. As a result, local funding is limited over the long term.

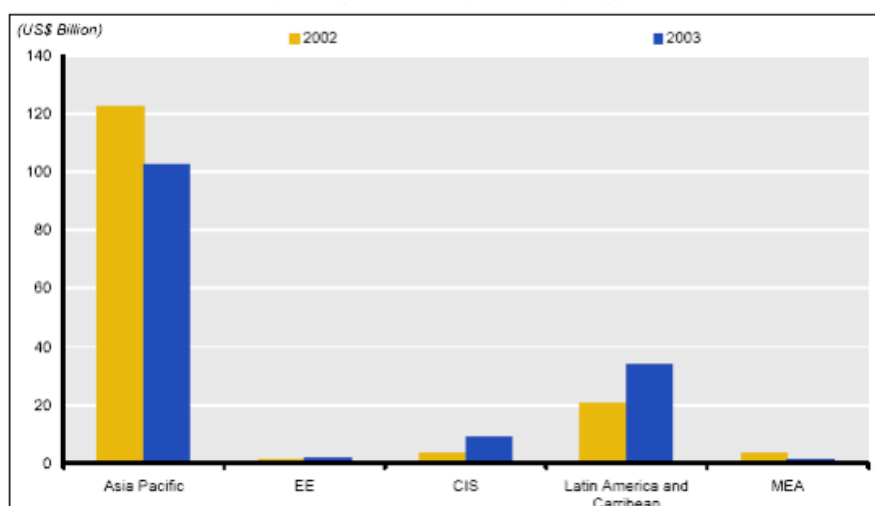
Figure 1. Annual Emerging Market Debt Issuance



Note: Includes all public, private (outside US) and rule 144a issuance of straight debt, convertible debt, floating-rate notes, and medium term notes by financial and non-financial entities. Excludes sovereign issuance. Data as of March 2004.

Source: Standard & Poor's Global Fixed Income Research, Thomson Financial.

Figure 2. Emerging Market Issuance by Region



Note: Includes all public, private (outside US) and rule 144a issuance of straight and convertible debt, floating-rate notes, and medium term notes by financial and non-financial entities. Excludes sovereign issuance.

Source: Standard & Poor's Global Fixed Income Research, Thomson Financial.

On the basis of limited information, as yet foreign exchange exposure is not a substantial problem for many MFIs. The table below provides an example of Colombian MFIs and summarizes the foreign exchange component of their balance sheets.

Table 1. Colombian MFI's – Borrowing Activities – 2003 (Source: MicroRate)

Deutsche Bank Loan	Total Liabilities, \$,000s	Foreign Currency, \$,000s	Foreign Currency, % of Total	ST Liabilities, \$,000s	ST Liabilities, %	LT Liabilities, \$,000s	LT Liabilities, %
WWB Bogotá	7041	574	8	4172	59	2870	41
WWB Bucaramanga	10027	1038	10	4705	47	5323	53
WWB Cali	27237	1484	5	15965	59	11272	41
WWB Medellin	5163	145	3	2113	41	3050	59
WWB Popayan	7986	255	3	2844	36	5142	64

Note: WWB = Women's World Banking

Source: MicroRate

Current foreign exchange exposure of the 5 MFIs included in the table averages less than 10 percent of their total liabilities. But, given that:

- MFIs often accept foreign funds even when they do not need additional liquidity,

- In the future MFIs will increasingly need to look to foreign investors for credit because of the liquidity limitations of most developing country financial markets, and
- Reform of the financial markets in developing countries is a long-term process.

There is a need to assist MFIs in dealing with foreign exchange risk in the short- and medium term. This need brings to the fore, issues related to the difficulty and expense of dealing with foreign currencies, and the willingness of donors to deal in local currencies. Discussions with investors and potential investors revealed that a significant supply side response could be expected if the costs and difficulties of investing in MFIs were to be reduced, and this reflects the views of investors who primarily pass the foreign exchange risk on to the investee.

Lending, Foreign Exchange Risk, and Risk Hedging

Figure 3. Balance Sheet Visualization

Foreign exchange is the process of trading one currency for another. The trade can occur in two ways – either in the spot market, where the transaction occurs within two business days, or in the forward market where the transaction is contractually scheduled to occur under specific terms at some point in the future. Persons engaging in such transactions can either hold a long position, in terms of which they expect to receive foreign exchange or a short position in terms of which they sell or hand over foreign exchange for delivery at some time in the future.

BALANCE SHEET

	Assets	Liabilities
Off Balance Sheet	Forex Transactions Long Position	Forex Transactions Short Position
On Balance Sheet	Loans	Borrowing
		Net Worth

But, holding assets or liabilities in a foreign currency involves risks to either (or both) borrower or lender. These risks include interest rate risk, country risk, and exchange rate risk:

- *Interest rate risks* result from differentials in interest rates between the MFI's country and that of the currency in which the loan is denominated; for example, when a Latin American MFI borrows dollars where the lending interest rate is say 5 percent versus local interest of 15 percent. This disparity can arise from differences in inflation rates, differences in liquidity of financial markets, differences in intermediation efficiency, and differences in lending risks.
- *Country risk* arises from potentially adverse political developments and economic trends. In turn, both of these risks impact exchange rates.
- *Exchange rate risk* arises from unexpected changes in currency rates – in other words, the potential loss that results from a change in the value of a currency. In the lending scenario, the risk arises from the possibility of a change in the currency in which the loan is denominated. This situation exists because in the time between when a loan is initially made and loan payments are necessary, exchange rates between the borrowing country and the lending country can and generally do change. Hence, foreign exchange risk for one of the involved parties and the necessity for the parties involved to hedge against the risk of an adverse foreign exchange rate shift.

When dealing with foreign exchange risk there are various options that are available for those who are exposed to foreign exchange risk. Those options include:

- *Doing Nothing* - absorbing the risk and unfavorable exchange rate movements as they arise. This action is probably the best option if devaluations and appreciations are minor, but become much more serious in the event of a major depreciation as happened in Mexico in 1994 or Argentina in 2002/2003. Under such circumstances, an unhedged domestic borrower could see its liabilities in local currency double or even triple.
- *Using Hedging* – as a means of covering the risk on future foreign currency obligations.

- *A Mix* - Using the time between recognition of the risk and the time of the obligation to identify the lowest possible price for the foreign currency in the intervening period.

Hedging is a form of insurance against a move in the currency that helps protect the involved parties against unanticipated exchange rate changes. Without hedging, a foreign currency loan allows the borrower to benefit in the event of an appreciation of the local currency but be negatively impacted if their local currency depreciates. A borrower hedging against the risk is protected against the negative effects of a depreciation but does not gain if the currency appreciates. The reverse applies to a lender, lending in a currency different from that where the borrower is located.

Doing nothing has the obvious potential costs in the event of an adverse exchange event, but hedging itself is not costless. There are substantial transactions costs associated with counteracting currency risk, which are especially high when the sums involved are relatively small. Given these realities MFIs considering hedging must assess their degree of risk exposure as well as carefully examine the hedging options available to them.

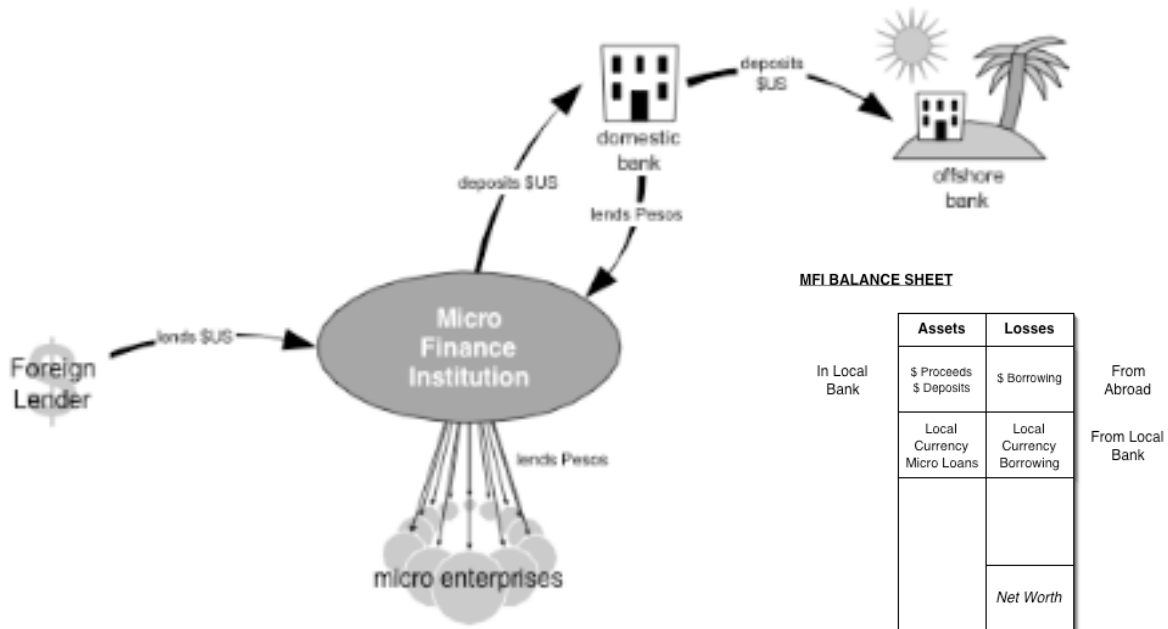
A Brief Discussion of Possible Hedging Instruments

There are a number of instruments to hedge against risk that have evolved in the international financial markets. The instruments mostly achieve the same end but differ in the details – for example, with respect to time horizons for hedging, default risk, transactions costs, and market imperfections. They combine in different ways to allow those engaged in transactions that involve foreign exchange risk to tailor them in accordance with their appetite for risk and the maturity of the contracts in which they are engaged. (Please note: the following discussion is by no means an exhaustive review of the available instruments but rather an overview to provide a sense of what MFIs are currently doing as well as what is offered in the international financial markets.)

Countervailing Foreign Exchange Deposits

Almost without exception, investors and MFIs currently use countervailing foreign exchange deposits to hedge foreign exchange risk. The essential feature of this arrangement is the use of a foreign exchange loan as security against a local currency loan. It works in the following manner.

Figure 4. Foreign Currency Deposits with Local Bank Intermediation



A foreign lending institution situated, say, in the United States provides a loan of US\$1 million to a MFI in, say, Colombia. The Colombian MFI deposits the loan in a domestic bank as security against a local currency loan equivalent from the domestic bank (for purposes of this example we will assume a 1:1 relationship – i.e. a spot exchange rate that converts \$1 million to 1 million pesos.) The domestic bank then deposits the US\$1 million in a dollar account⁵. The dollar denominated account is taken by the commercial bank as collateral against the domestic currency loan from the commercial bank to the MFI. When the MFI repays the loan of 1 million pesos to the domestic bank, the domestic bank releases the US\$1 million, which the MFI then uses to repay the foreign lender. If the exchange rate has not changed, all parties receive the full amount of the contract.

⁵ Depending on currency regulations, the account could be kept within the country or put into a foreign branch of the domestic bank.

In the event of changes in the exchange rate, the MFI will not suffer capital losses. If the local currency has devalued, for example by 50 percent during the term of the loan, then the MFI repays its domestic borrowing of 1 million pesos to the local bank (now worth only US\$500,000), the domestic bank releases the US\$1 million deposited in a dollar account, and the MFI repays the foreign lender. (See Figure 4 for a diagram of the component parts of the transaction.) Neither the borrower, nor the lender suffers capital losses on this type of transaction.

If the local currency has appreciated by 50 percent then at maturity the MFI deposits 1 million pesos with the domestic bank, which releases the US\$1 million that the MFI in turn uses to repay the foreign lender. Exchange rate changes affect how much collateral the domestic bank holds, however. In the event of a depreciation of the peso, the value of the collateral increases because the dollar deposit is worth more in pesos than before the devaluation. In the event of an appreciation, the value of the collateral declines and the domestic bank could request additional collateral from the MFI or call the loan if the loan covenants allow for it.

A further problem with this hedging instrument is that interest payments are not protected from changes in the exchange rate using this method, so that if the MFI is taking the foreign exchange risk, in the event of a devaluation of the local currency, interest payments rise and a loan that made good business sense before the change in the value of the currency might be uneconomic when the exchange rate changes because the cost of interest payments rises precipitously due to the devaluation.

Other disadvantages of this scheme include the expense and the impact on prudential incentives. The scheme weakens the prudential incentives of the domestic bank to examine the lending practices of the MFI carefully because the domestic bank has no capital at risk. Therefore, the foreign lender has a much stronger incentive to monitor the performance of the loan than does the local bank. This raises administrative costs for the foreign lender.

A further problem with this form of hedging arises from the difficulties in the matching the maturities of the loan from the foreign investor to the MFI and the term of the deposit in dollars placed with the domestic bank. This problem stems not from the unavailability of instruments but rather the small size of the transactions. Most instruments in the foreign exchange market involve amounts that are much larger than those the MFIs deal with - \$25 million is considered small in the forex market whereas usually MFIs are looking to hedge amounts between \$250,000 and \$1 million. Holding these deposits in a current or short term account, therefore, implies foregoing a potentially substantial amount of interest on the deposit. However, placing these deposits in a fixed term instrument requires that the terms of the loan and deposit match, something that several MFIs have reported difficulty in doing.

Table 2 and Table 3 indicate the cost of this form of hedging. They illustrate the reported net cost to MFIs on term loans from Corporacion Andina del Fomento (CAF) and from Deutsche Bank Foundation (which provides dollar loans at a subsidized interest rate of 2 percent). At the rate of interest charged by CAF, the net annual interest rate cost to the MFI of a dollar loan ranges from more than 14 percent to over 21 percent. On the subsidized Deutsche Bank Foundation loans, the net annual loan cost ranges from slightly less than 12 percent to over 17 percent. This is a net cost that includes the interest earned on the dollar deposits but does not include the administration charges incurred either by the MFI or by the foreign lending institutions.

Table 2. Cost of Deutsche Bank Loans to Colombian MFIs

Deutsche Bank Loan	Deutsche Bank Loan Amount, \$,000s	Deutsche Bank \$ Loan Interest Rate Paid by MFI	Countervailing \$ Deposit Investment Interest Rate	Domestic Currency /Local Bank Loan Interest Rate Paid by MFI	Net Nominal Loan Cost for MFIs
WWB Bogotá	75	2	2.75	12.89	12.14
WWB Bucaramanga	75	2	3.5	14.54	13.04
WWB Cali	75	2	2.75	18.15	17.4
WWB Medellin	75	2	2.75	14.19	13.44
WWB Popayan	75	2	3	12.8	11.8

WWB = Women's World Banking

Source: MicroRate

Table 3. Cost of CAF Loans to Colombian MFIs

CAF Loan	CAF Loan Amount, \$,000s	CAF \$ Loan Interest Rate Paid by MFI	Countervailing \$ Deposit Investment Interest Rate	Domestic Currency /Local Bank Loan Interest Rate Paid by MFI	Net Nominal Loan Cost for MFIs
WWB Bogotá	499	5.77	3	13.55	16.32
WWB Bucaramanga	487	4.72	3.25	14.54	16.01
WWB Cali	410	6.21	2.75	18.15	21.61
WWB Medellín	70	5.3	2.6	14.19	16.89
WWB Popayan	180	4.34	3	12.8	14.14

WWB = Women's World Banking

Source: MicroRate

Nominal local currency interest rates that the banks charge are high – they range from nearly 13 percent to over 18 percent for the 5 MFIs that were interviewed for this study. Part of this situation is the result of inflation in Colombia being above the Latin American average, some 6 percent per annum⁶. Even allowing for this, however, interest rates in real terms reflect the institutional underdevelopment of financial markets in Colombia, which is mirrored in other Latin American as well as other developing countries. This issue will be discussed at greater length later in the paper.

Table 4. Colombian Interest Rates, 2002

Colombian Interest Rates	2002
Deposit interest rate (%)	8.9
Interest rate spread (lending rate minus deposit rate)	7.4
Lending interest rate (%)	16.3
Real interest rate (%)	9.7
Deposit interest rate (%)	8.9

Source: World Development Indicators, 2004 Online Database

This admittedly limited data set also illustrates that when foreign lenders charge interest rates that are anything close to market rates, the cost of this type of funding is higher than it would be for the MFIs in local capital markets. Even with the Andean Development Bank charging interest rates of around 5 percent on dollar loans, the real cost of funds for MFIs is in the 15 percent plus range. The Deutsche Bank Foundation provides subsidized loans at an annual interest rate of 2 percent, which allows MFIs to earn a small surplus from the countervailing funds on

⁶ World Development Indicators 2004 Online Database

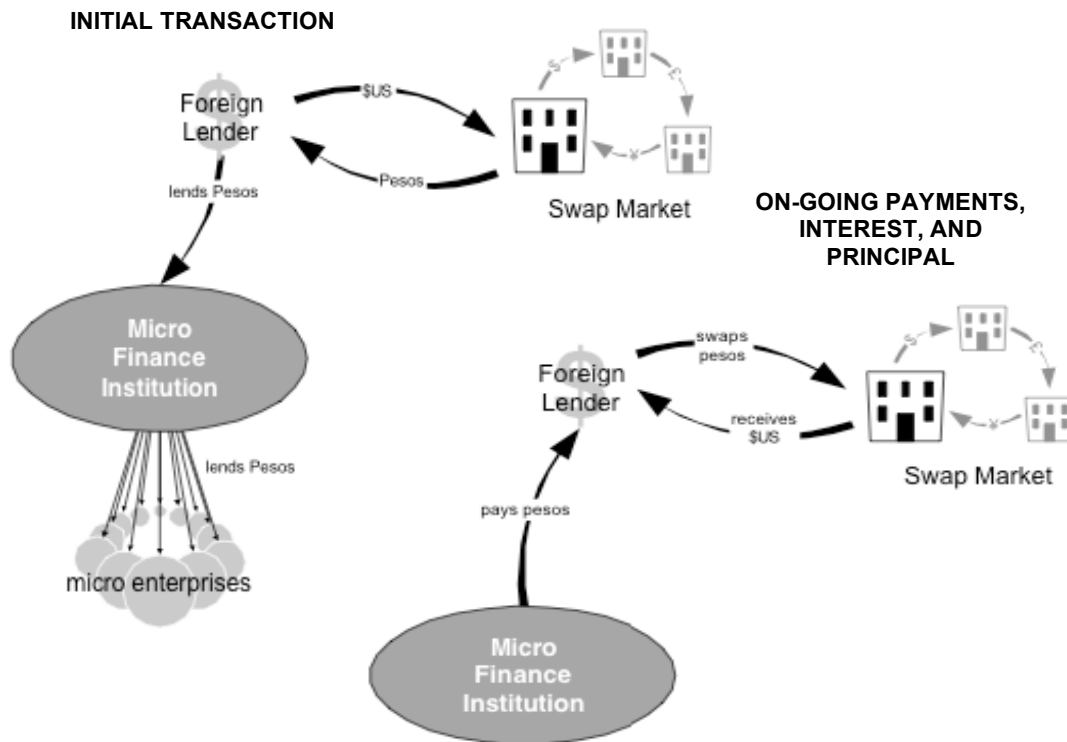
deposit. In both cases, however, it is unrealistic to expect market oriented institutions to lend funds on unsecured loans at such low rates – the transaction is not sustainable, particularly when the high transactions costs of setting up such deals are taken into account.

There are several hedging instruments that are currently in use in international financial markets that have the potential to be used in investor/MFI transactions. But, most of them require better-developed financial markets than currently exist in most developing countries. Nevertheless, it is a topic worth exploring. One of the conclusions of this paper is that financial market development is the best hope for effective financing of MFIs, so a discussion of possible ways of hedging foreign exchange transactions has future relevance. Furthermore, several offer the possibility, even now, of new ways of hedging that reduce transactions costs and risks. Without financial market development, foreign exchange markets will remain thin and underdeveloped, with the result that effective hedging of foreign liabilities, especially medium to longer term liabilities, will remain difficult.

Dollar/Domestic Currency Swaps

Foreign exchange swaps are an exchange of a stream of payments between two parties either directly or through an intermediary. They are a combination of spot and forward transactions. They generally involve a spot purchase and forward resale or a spot sale and forward repurchase of two currencies. (The transaction is illustrated in Figure 5.) A foreign lender to an MFI could use this instrument. Since the MFI needs, for example, pesos but probably lacks the credit standing to engage in the swap market, the foreign lender enters into the swap market for the MFI. Of course, this example assumes that the foreign lender is willing to absorb the credit risk of the MFI.

Figure 5. Dollar/Domestic Currency Swap



There have to be two parties to the exchange - one wanting to sell the foreign currency the other willing to purchase it. Swaps involve a simultaneous spot purchase of foreign exchange along with an offsetting forward purchase. The re-exchange of the currencies at a future date allows for the conversion of a stream of cash flows in one currency into another at a defined exchange rate. It is a form of barter. Because swaps allow for a temporary exchange of currencies and they are often used to make investments, the arrangement can be set to have a maturity that coincides with the forward value date. The currency is then returned at that time. The exchange rate for the forward delivery is fixed upon signing the contract and thereby avoids the risk of currency fluctuations over the life of the investment.

Table 5. Cost of Swaps in Colombia

	Limits		Requests	
	Swaps		B = 5 yr (2 grace)	
Financial Institution	Tenor	Min. Amount	Pricing	Total Costs
ABN Amro	5 – 10 years	\$200,000	18,50%	
Citibank	7 years	\$250,000	17.35%	

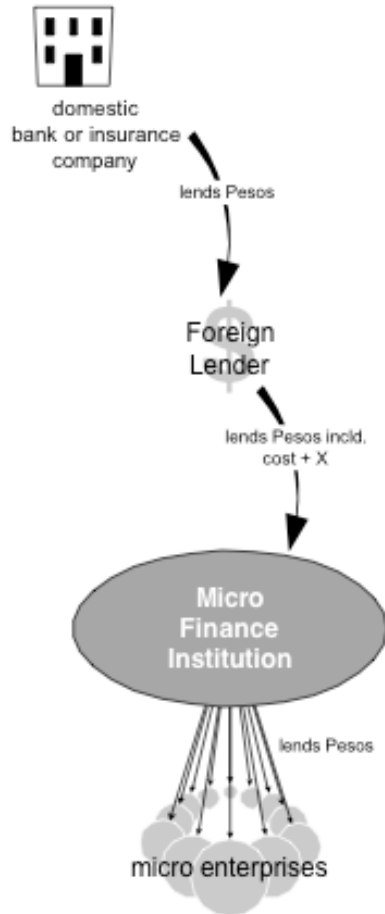
Source: Women's World Banking

Consider, for example, an investor making a loan to a Colombian MFI of \$1 million with an 18-month term. Under this arrangement the foreign investor in an MFI places US\$1 million on the swap market. This transaction occurs through the market whereby someone with pesos, who needs dollars now, but expects to receive dollars and will require pesos at a time when the MFI repays the loan, is matched with the MFI. The MFI thereby obtains the domestic currency it needs. As the MFI makes on-going payments of interest and principal, the flows go in reverse – the MFI pays domestic currency to the foreign institution, which changes it back to dollars. The foreign exchange risk can be partly reduced by embodying a premium in the interest rate that the foreign lender charges the MFI on the domestic currency loan.

The example illustrates that a fairly sophisticated and developed market is needed in order to be able to match swap transactions. To date, such markets have developed in some emerging economies including Korea, India, Indonesia, Philippines, Thailand, Czechoslovakia, Hungary, Poland, Slovakia, Mexico, and South Africa among others. (In these markets, long term swaps between dollars and the local currency are available.) The cost of hypothetical transactions (investigation did not reveal any actual transactions between MFIs and foreign lenders that had already occurred) indicate that the annual cost would be in the range of 18 percent on swaps with a maturity of up to 10 years.

Borrowing and On-Lending

Figure 6. Borrowing and On Lending

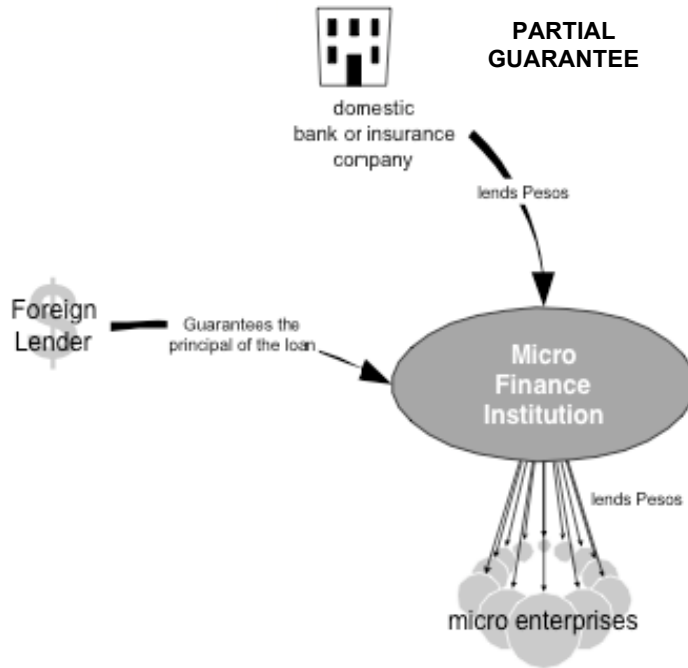


Use of borrowing and on-lending assumes that a foreign institution is willing to incur the prudential risk of the MFI. With this instrument, a domestic bank makes an unsecured loan in domestic currency to a foreign financial institution which then onlends the currency to the MFI. Since all transactions are in the domestic currency there is no foreign exchange risk. In this case, the foreign financial institution must be large and have a substantial reputation for financial probity in order for the domestic bank to make the loan. The loan collateralization issue that exists in many developing countries is thereby avoided as well, although it implies that the foreign lender is exposed so that foreign exchange risk is replaced by prudential risk. The foreign institution will carry the risk of default by the MFI, unless it is willing to see its international reputation suffer through default to the local bank. In addition, the

local bank does not have a strong incentive to supervise the loan, so loan supervision costs for the foreign lender could be substantial. This type of arrangement does encourage the growth of rating MFIs, however, so the lender can obtain a better sense of the financial position of the MFI.

Domestic Currency Guarantees by a Foreign Financial Institution

Figure 7. Domestic Currency Guarantee

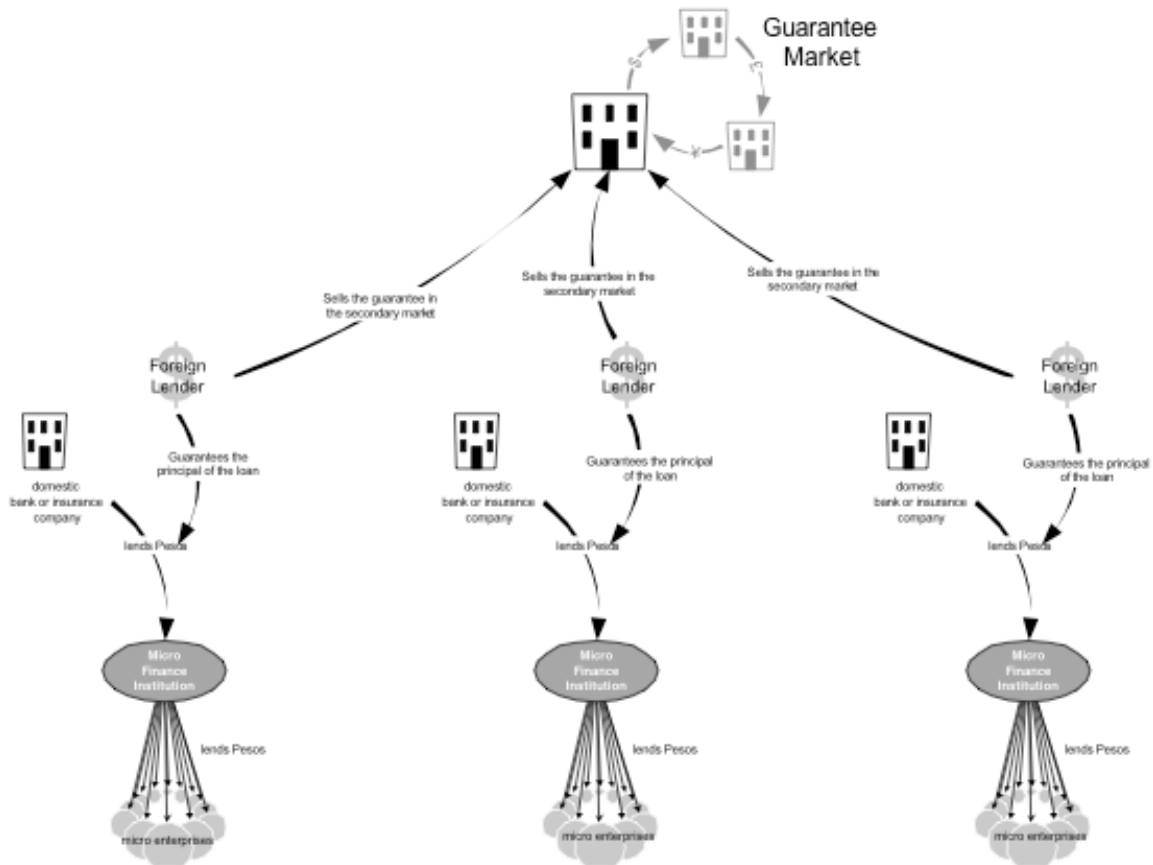


Under this variant, a domestic bank lends to the MFI and a foreign financial institution guarantees all or part of the principal. The instrument assumes that the local bank is reasonably willing to lend to the MFI but only if its credit risk is either partially or fully reduced. The foreign institution earns a guarantee fee for this service, which is paid by the MFI. Again, there is little foreign exchange risk involved for the foreign lender unless the MFI

defaults at the same time as a large appreciation of the domestic local currency. In that case, the dollar value of the amount of the default would increase in proportion to the percentage of the appreciation. Such a system could have positive externalities because it encourages the growth of the domestic credit market by giving local commercial banks experience with lending to local MFIs. If the guarantee is partial, it also gives the local commercial bank an incentive to monitor the financial performance of the MFI. In addition, the reliance of the foreign financial institution on the performance of the MFI encourages the growth of rating systems for MFIs. A problem with this instrument in the past, however, has been that local banks have not reduced their interest rates even when a foreign bank is willing to accept the credit risk. So the loan cost still remains high.

Guarantees through a Secondary Market

Figure 8. Variation on the Partial Guarantee



This is a modification of the previous scheme. Under this arrangement, a number of foreign banks provide partial guarantees to MFIs. A separate company, operated on prudential insurance risk management principles, purchases a diverse portfolio of guarantees from the foreign banks and manages the guarantees. Because of the diverse portfolio (diverse in terms of countries, terms, and maturities), both the foreign exchange risk and default risk can be managed at lower cost than a financial institution holding only a few guarantees.

More Conventional Foreign Exchange Instruments

Forward Contracts

Forward contracts are the most commonly used method of dealing with exchange rate risk. Hedging with a forward contract involves purchasing foreign exchange at a point in the future at an agreed upon exchange rate (that is generally different from the spot exchange rate⁷) as a means of dealing with potential future volatility in exchange rates. The buyer and seller negotiate the deal's details⁸.

An example of the forward contract in the microfinance context is: An MFI obtains a dollar denominated loan with repayment terms over the course of 2 years with the first payment occurring after 6 months and every 3 months following. The MFI can partially cover the possibility of the dollar appreciating against its local currency by purchasing dollars forward for delivery in 180 days. While 180-day forward contracts are available in many developing countries, longer term forward contracts are not so easily obtained. The lender in this example would then be faced with the need to purchase 180 forward contracts for dollars for each of the subsequent interest payments as the time arises – it would mean that the borrower is uncovered against foreign exchange risk for 3 months on the payment that is due after 9 months, for 6 months on the payment that is due after 12 months and so on.

The advantage of this instrument is that it allows the party involved to avoid the foreign exchange risk by buying or selling a currency at a price that is fixed at inception for delivery at a specific future date. The exchange risk is removed by locking the date of the currency payment to the date of the forward transaction. It is possible to make multiple payments using the same contract if the financial institution provides a drawdown feature. Forwards are also flexible, which allows the buyer to establish a delivery date that matches the loan delivery exactly. Quotations on forward contracts in Colombia were substantially less

⁷ The difference between the spot and forward rates is generally determined by the interest rate differential between the two countries.

⁸ If the forward exchange rate is higher than the current spot rate the currency is trading at a premium whereas it is trading at a discount if the forward rate is lower than the spot rate.

costly than swaps, although the term of the contracts was much shorter. Nevertheless, the length of available contracts is still relatively short and not really sufficient to allow effective cover on long term loans to MFIs. However, the cost calculation does not include the cost associated with deposits on contracts (see next paragraph).

Table 6. Quotations on Forward Contracts in Colombia

Financial Institution	Date of quote	Limits		Requests
		Length of Contract	Minimum Amount	Pricing (%)
ABN Amro	1/29/04	2 years		9.2%
Citibank	Forward 2/26/2004	1 year	\$10,000	9.0%
BcoOccidente	2/18/04	6-9 months	\$US20,000	

Note: Most banks offer Non-deliverable forwards for the same tenor as their Forward offering. Most banks seem to offer Euro forwards and swaps similar to US\$ parameters.

Source: Women's World Banking

Another disadvantage associated with forward contracts is that a substantial deposit is generally required at the time the contract is entered into and default on the contract often results in a heavy penalty. Furthermore, the contract must be of a size that interests the dealer. There is generally a premium to be paid with a forward contract and that premium might exceed the costs imposed in the event of a disadvantageous change in the currency involved. While there is flexibility in establishing delivery dates initially, once they are established there is no way to change them. Therefore, if circumstances change for the buyer, there is no way to liquidate the contract without incurring a penalty. Forward contracts also generally require a form of collateral security, which may be difficult for some in the developing world to obtain. The collateral often takes the form of either a compensating balance or a performance letter of credit.

It is possible to establish forward contracts in most currencies. There is also a forward market that trades in certain currencies at 30, 60, 90, and 180-day intervals. The advantage of using standard hedging maturities is that transactions costs are lower because the contracts are standardized. But, to obtain contracts of non-standard maturities requires that a MFI wanting to buy dollars for delivery at a particular date must find a seller who is willing to supply the

required amount at the specified time – and matching of this sort tends to be costly.

Non-deliverable Forwards

Non-deliverable forwards are a variation of forward contracts where a conventional forward market does not exist or is restricted. This type of forward allows hedging against a future currency risk by settling the forward in U.S. dollars as opposed to any physical exchange of a foreign currency at maturity. It is particularly important in many developing countries where forward and options markets are unavailable. For example, if there were a Gambian MFI that received a loan in dollars but needed to convert the dollars into Gambian dalasi and hedge their foreign exchange risk, using non-deliverable forwards could be a possibility. The dollar settlement at maturity covers the difference between the original forward exchange rate and the official spot exchange rate designated at settlement. This is a potential instrument for lenders to MFIs that is discussed later in this paper.

Currency Futures

Currency futures, like forward contracts, involve contracts to obtain foreign currency at a future date under specific terms. Futures, however, are standardized, have a set amount, and are for smaller amounts of currency. Their delivery dates are also standardized and usually occur at the end of calendar quarters.

Since futures are standardized, they are traded on futures markets, primarily the Chicago Mercantile Exchange. When an investor enters into a futures contract, they must establish an account with a broker on the exchange where the contract is listed. Parties to futures contracts have to provide the broker with a performance bond generally either a Government security or a letter of credit, which can either be for the full value of the contract or some lesser percentage⁹.

Futures contracts have advantages and disadvantages. The advantages include:

⁹ With currency futures, the parties have not bought or sold anything – they have contracted to buy or sell when the contract falls due. Therefore, the margin requirement is a deposit against renegeing on the contract.

- Since there is an active market in the currencies traded on the exchange, they are very liquid and can be sold at any time.
- They are of a standardized size, so they are easy to obtain and have much lower transactions costs than forward contracts¹⁰.
- Contracts are standardized, and are for standardized amounts, so they are easy to understand.

The disadvantages include:

- Since the price of the underlying currencies change continually, the value of the underlying futures contracts also experience gains or losses continuously.
- There are no limits on the gains or losses involved in a futures contract, so that the potential risk involved is much larger than in a forward contract.

Options

Options are similar to both futures and forwards in that they involve a contract for the exchange of currency at particular terms – at a strike or exercise price - at a date in the future. For a fee, the premium, a worst-case exchange rate, can be guaranteed for the buyer for the future purchase of one currency for another. The difference, however, is that an option does not obligate the buyer to deliver on the contract unless they decide to exercise the option at the transaction date. (The right to purchase the option is a call and the right to sell is a put.) Options are purchased and sold on exchanges - the Chicago Mercantile Exchange being the most active exchange. Options contracts vary on when the option can be exercised. For example, American options allow for exercise of the option prior to the expiration date whereas European options do not.

¹⁰ In other words, dealer spreads – the difference between purchase and selling prices – are much lower than with forward contracts.

Are There Other Ways of Dealing with Foreign Exchange Risk?

The Problems of MFI Investors

In the course of preparing this paper, several foreign investors in MFIs were interviewed in order to obtain information on how they perceived the problems of hedging foreign exchange transactions, how they currently dealt with it, and other difficulties that they experienced operating in countries where MFIs are located. While there was a wide range of opinions on the best method of dealing with foreign exchange risk, there was also a commonality regarding the problems.

Foreign Exchange Risk and MFI Investors

There was a general concern regarding the problems, expense and risks associated with investing in MFIs. Some of the difficulties arise because in general, investments in MFIs are small – in the range of \$250,000 to \$1 million. These amounts incur substantial transactions costs because there are both fixed and variable costs associated with such investments and the fixed costs can be substantial. Almost all of the investments are in the form of loans, sometimes with conversion options, although this is the exception rather than the rule. There were a number of specific problems that were noted.

Types of Hedging Instruments Available

In most developing countries, there are very limited hedging instruments available. For example, in Latin America, Mexico and to a lesser extent Colombia and Brazil, are the only countries where swaps are available. All the investors that were interviewed required the borrowing MFI to assume the foreign exchange risk. As a result, most investors use the countervailing deposit method.

In addition, the collateral security that the investors hold is often not of high quality because of the inability of borrowers in most developing countries to pledge effectively assets as security. As a result, investors reported that they had no option in some cases but to convert debt into equity for MFIs that incurred financial difficulties.

Regulations and Inefficiencies in Local Banking Systems

All the investors involved described the difficulties of dealing in the financial markets of the countries where the MFIs are located. Red tape and inefficiencies abound. For example, one investor indicated that it took them at least two full weeks of staff time to open a bank account in most countries in which they dealt. Requirements such as the notarization of documents, sending copies of the passports of officers of the institution, references from their US or European bankers, guarantees from their bank as well as the delays and expenses of sending documents back and forth and the slowness of response in the correspondent banks all resulted in delays and expenses. Some institutions indicated that it took 3 full days of staff time and months of waiting to open an account.

These steps are necessary because to undertake any dealings or transactions with banks in which the MFIs are located, the investors are required to be clients of the bank that is assisting in any mechanism to hedge foreign exchange risk.

Even in cases where the investor and the MFI agreed on a countervailing deposit system of hedging against exchange rate changes, it was time consuming and difficult to set up. Those interviewed indicated that it was not uncommon for the process to take a year between initiation and completion because of the complexity of the administrative procedures. As a result, it is difficult for investors to respond to the financing needs of rapidly growing MFIs with any sort of alacrity.

Problems in Dealing with Local Bank Regulations

In addition to dealing with local bank inefficiencies, investors also have to navigate local bank regulations. These can range from currency controls which either prohibit, or make difficult, the repatriation of interest on loan principals, to requirements that purchasing MFI securities require a Global Custody arrangement, in terms of which a bank acts as the trustee for the securities issued. Investors interviewed indicated that the latter arrangements involve a payment of at least \$20,000 per issue.

The Result - High Transactions Costs

Transactions are therefore high. A consistent problem in the issues outlined in the preceding paragraphs is the small size of transactions in the microfinance industry. The result is that the costs of engaging in investments are disproportionately large relative to the size of the investment. Typically, such investments rarely exceed \$500,000 so that the time, the fees, and other costs eat up a substantial proportion of the loan. Either this is passed on to the MFI, making the loan very expensive, or the investor absorbs it, which implies a significant subsidy component to the investment.

Assessing the Degree of Foreign Exchange Risk

In assessing foreign exchange risk, borrowers (in this instance the MFI) must answer the following questions:

- What are the potential losses or gains for the MFI if the domestic currency rises or falls over the period of the loan? What is the impact on the MFI?
- Over the length of the loan or investment, does the MFI think there is a significant likelihood of a catastrophic devaluation, such as recently occurred in Argentina?
- What are the potential losses or gains as a percentage of the MFIs' profit and capital structure?
- Are the potential losses small enough where they can be passed on to the customers of the MFI? Could the MFI absorb the losses if necessary?
- Can denominating the MFI's loans in different currencies diversify the risk?

Once the degree of exposure is determined, forecasts of exchange rate changes can be made. Predicting what will happen with exchange rates is, however, a difficult and complex task, and one that challenges even the most skilled analysts. Assuming that the market is efficient, a currency's forward exchange rate should reflect interest rate differential between the two currencies or the expected future level of the spot rate. But the existence of exchange rate speculation is an indication that the forward rate for an exchange rate is far from

a perfect predictor. In other words, the actual future spot exchange rate ends up being the forward exchange rate plus some random error based on a combination of events and expectations. (That error follows a random path as a result.) There is some evidence that the best predictor of the future exchange rate is the current spot rate. The foreign exchange market is considered one of the most efficient markets in the world. Thus, as a rule, the forward rates generally provide a good indication of expected exchange rates.

Once exposure is determined, an investor (or borrower) could conduct scenario planning based on possible outcomes and the issues outlined in the preceding paragraphs. Although currency exposure is a complex subject, it can be simplified through scenario planning which can help the investor or borrower to clarify the alternative costs relative to possible outcomes. Scenario planning does not require forecasting, but rather working out the implications of likely outcomes, plus a “disaster outcome”. In the end, potential fluctuations need to be managed and how that occurs depends on the degree to which that entity is willing to accept risk, and the costs involved with mediating that risk. (In other words, complexity and the difficulty in gauging changes with precision should not be used as an excuse not to act at all.)

What the preceding discussion reveals, however, is that the process of assessing foreign exchange risk requires an assessment of political risk and macroeconomic risk, both domestically and in international markets¹¹. Such evaluation requires a level of analytical sophistication that may well be beyond the capabilities of the lenders. Borrowers – the MFIs - that specialize in analyzing micro loans will almost certainly not have this expertise. Therefore, the IFIs need to initially provide support to the MFIs in undertaking this analysis so they can build capacity in this area, reveal possible exposures better, and be aware of the implications of any particular course of action.

Two things are clear. The MFI will need assistance in this process, and it is also conceivable that the foreign investor will as well. Although it can be better for

¹¹ The Asia Crisis, for example, placed severe strains on the exchange rates of many Latin American economies through financial contagion that had little to do with domestic policies.

the party exposed to the exchange risk, particularly a major devaluation, to hedge, the cost of hedging becomes a major factor in the structuring of investments in MFIs, regardless of how the exchange risk is allocated. These costs vary from instrument to instruments.

The Feasibility of Foreign Exchange Risk Insurance

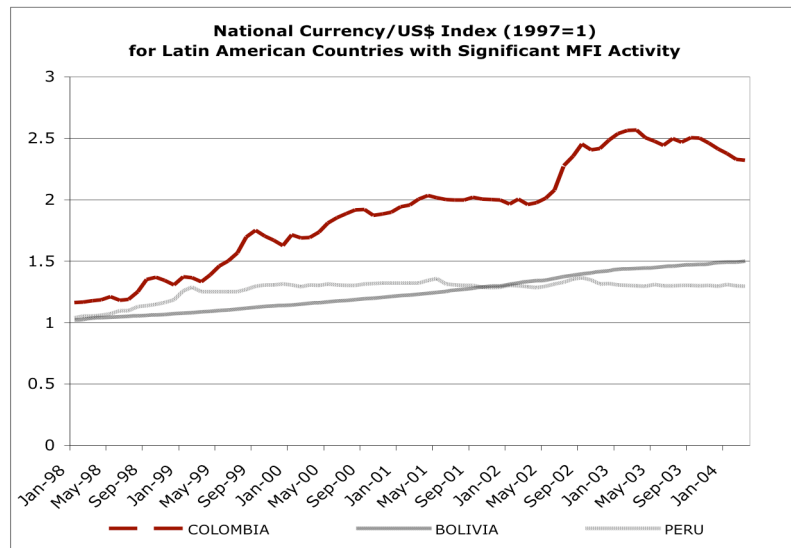
Table 7. Latin America: Correlation Matrix of currencies vis a vis the US dollar

An alternative to hedging through foreign exchange markets could be for donors to pool risks across countries in regions where they are active. In this way it might be possible for movements in one currency to be offset by movements in another, thereby reducing risks. To test the feasibility of this approach, we constructed a correlation matrix of currency movements over the past 10 years for the 3 countries in Latin America where micro-finance is most developed.¹² (See Table 7 for the matrix.) It is evident that the currencies are highly correlated, tending to move closely together. This implies that any insurer would be taking a one-way risk, with a substantial chance of losing money.

	COLOMBIA	BOLIVIA	PERU
COLOMBIA	1.00	0.97	0.84
BOLIVIA	0.97	1.00	0.74
PERU	0.84	0.74	1.00

Figure 9. National Currency/US\$ Index for Selected Latin American Countries

The following chart shows an index number series of the US dollar exchange rates for the Latin American countries that have significant MFI activity (Colombia, Bolivia, and Peru) and

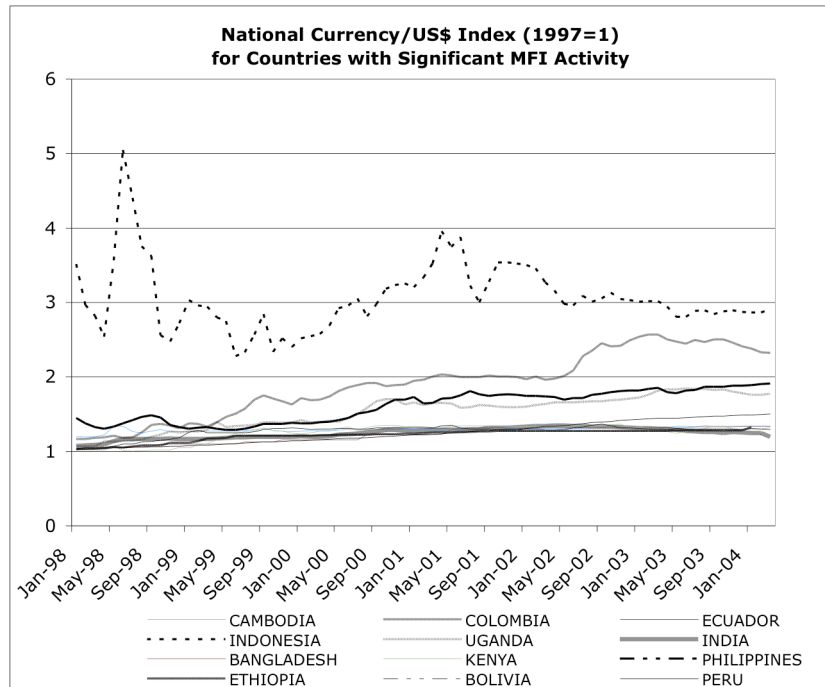


¹² It is also well developed in Ecuador, which has dollarized, making forex risk issues irrelevant.

confirms that the currencies move together and tend to depreciate over time against the dollar. Thus, for example, the risk premium that a regional development bank would have to charge in order to price foreign exchange risk insurance cover correctly would be substantial and probably sufficiently high to discourage borrowing by MFIs in the countries in question.

Figure 10. National Currency/US\$ Index for Countries with Significant MFI Activity

A further broader question is whether a multilateral development institution, such as the World Bank or the IFC, could provide cover. To examine this issue, we plotted movements in index number series for the currencies of 12 countries where microfinance is well



developed, including the three Latin American countries illustrated in the earlier example. (See Figure 10.) Again it is apparent that there is a substantial degree of correlation between them. Furthermore, movements of some of the currencies, in particular that of Indonesia, implies that very large losses would have been incurred as a result of the Asian Crisis.

Table 8. Correlation Matrix for Currencies With Well Developed Microfinance Industries

	CAMB ODIA	COLO MBIA	ECUAD OR	INDON ESIA	UGAN DA	INDIA	BANGL ADESH	KENYA	PHILIP PINES	ETHIO PIA	BOLIVI A	PERU
CAMBODIA	1.00											
COLOMBIA	0.74	1.00										
ECUADOR	0.69	0.90	1.00									
INDONESIA	0.83	0.49	0.49	1.00								
UGANDA	0.77	0.97	0.92	0.54	1.00							
INDIA	0.85	0.86	0.88	0.73	0.90	1.00						
BANGLADESH	0.75	0.96	0.91	0.55	0.97	0.91	1.00					
KENYA	0.75	0.86	0.93	0.51	0.89	0.88	0.88	1.00				
PHILIPPINES	0.84	0.92	0.84	0.70	0.93	0.90	0.95	0.81	1.00			
ETHIOPIA	0.81	0.93	0.94	0.57	0.95	0.94	0.94	0.94	0.88	1.00		
BOLIVIA	0.66	0.97	0.84	0.43	0.94	0.80	0.96	0.77	0.91	0.88	1.00	
PERU	0.83	0.84	0.89	0.61	0.88	0.91	0.84	0.91	0.79	0.96	0.74	1.00

A further point is whether international financial institutions have a role at all in the insuring of such risk. The reason that donors are lending money to MFIs is because funds are unobtainable locally. In virtually all cases, this is because local financial markets are underdeveloped – the question of whether IFIs should be focusing on rectifying these deficiencies in the financial market rather than on setting up insurance schemes to mitigate against the consequences of the deficiencies must be addressed in this context.

Bond Issues

If foreign exchange insurance provided by the International Financial Institutions has serious drawbacks as a means of insuring donors, are there other ways that they could assist in promoting funding of MFIs? One possible way would be assisting with bond issues. Donors that have extensive networks of microfinance institutions would issue bonds, the proceeds of which could be used to finance their affiliates. A concrete step that agencies such as the Multilateral Investment Fund could take would be to finance the costs of such initial bond issues to “seed” further flotations.

Remittances and Microfinance

Overseas residents and workers remit billions of dollars to countries where there are thriving microfinance industries. Observers note these flows and raise the question of whether they could be made available to assist in increasing the

liquidity of MFIs. Since they are also, by definition, denominated in foreign currency, the question also arises as to whether the funds could be used to hedge donor investments in microfinance institutions. It is not easy to see how this could be done. While it is possible to securitize the “float” involved in remittance transfers, a float is effectively the asset of the recipient institution. Unless such institutions are willing to use the proceeds of securitization, it would not be possible to utilize the funds to finance MFIs.

An alternative would be to attempt to assist MFIs in attracting remittances. This would greatly enhance the liquidity of microfinance institutions while increasing the range of services available to the customers of the institutions. Some progress has been made in this area by credit unions, which, in some countries, are aggressively seeking remittances and providing much needed competition to institutions that have dominated that market. But, this development does raise the issue of how to regulate such institutions as they increasingly take in funds on behalf of others¹³. Substantial technical assistance will be needed to ensure that these flows do not result in poorly managed institutions that expand beyond their capabilities but rather organizations that can take advantage of this new opportunity.

Securitization

Securitization is a process whereby loans or other receivables are packaged, underwritten, and sold in the form of “asset-backed” securities. This enables those who are supplying credit (banks, leasing organizations, microfinance institutions, equipment dealers, and so on) to increase their liquidity by using their portfolio of loans as a basis for issuing securities. At the same time, it also allows lenders to transfer some of the risks of ownership to parties more willing or able to manage them. By doing so, lenders that are securitizing can access additional funds at more favorable rates than their business might obtain if they simply approach lenders. For investors, diversified asset pools greatly reduce the

¹³ See Hardy, Daniel, Paul Holden and Vassili Prokopenko, Micro Finance Institutions and Public Policy, *Policy Reform*, September, 2003, Vol. 6(3), pp. 147-158

need to obtain a detailed understanding of the underlying loans. As such, it is one of the most powerful potential instruments for MFIs in developing countries. However, a security's structure is often dictated by the kind of *collateral* supporting it. The typically short lives of receivables associated with revolving loans such as those made by MFIs would require issuers to structure the way in which assets are securitized to account for the characteristics of micro loans. For example, a portfolio of MFI receivables would often have a life of not more than five to ten months. Ideally, securities backed by revolving loans should be structured to facilitate cash flow management rather than distributing principal and interest to investors. As received, securities distribute cash flow in stages — a revolving phase followed by an amortization phase. During the revolving period, only interest is paid and principal payments are reinvested in additional receivables as micro borrowers take up their loans. At the end of the revolving period an amortization phase begins, and principal payments are made to investors along with interest payments. Because the principal balances are repaid over a short time, the life of the security is largely determined by the length of the revolving period.

In many ways this type of security would be ideal for microfinance institutions. Unfortunately, the inability to take collateral effectively is a characteristic of almost all the countries in which MFIs operate. There are some mechanisms that circumvent this failing but they are technically complex, and often expensive. Therefore, reform of the secured transactions framework is a precondition for the widespread use of this instrument.

Recommendations and Conclusions

The main conclusion of this analysis is that most of the problems involved in donor foreign exchange hedging arise because of the fundamental lack of financial market development in the countries where microfinance institutions are located.

Because it is difficult for MFIs to borrow locally at reasonable interest rates or for longer maturities, donors have stepped in to lend them funds, which are then subject to foreign exchange risk. However, even now, the proportion of liabilities of most microfinance institutions that are supplied by foreign donors is low. Admittedly the sample from which this conclusion is drawn is small – lack of comprehensive independently validated information is a feature of the microfinance industry. Furthermore, there is no doubt that some dedicated and committed donors wrestle with the problems of not being able to hedge foreign exchange risk. But, there is no simple solution to this conundrum. The size of the transactions poses a substantial barrier to the development of hedging mechanisms.

The bottom line is that the most widely used system developed so far - using countervailing deposits - is more expensive than borrowing locally because the transactions costs and the costs of the dollar loans are not offset by the interest earned on dollar deposits. In addition, the lack of local competition means that domestic banks can charge high interest rates despite dollar deposits as collateral. The conclusion is therefore inescapable that foreign investors are substituting for lack of development in the local financial markets.

Nevertheless, the term of loans offered by socially aware foreign investors and donors is generally longer than MFIs can obtain on local capital markets. This makes such financing attractive and it is on the rise¹⁴. As microfinance institutions borrow more from foreign investors, exposure to exchange risk is

¹⁴ A US based fund established to lend to microfinance institutions in developing countries recently closed after attracting some \$40 million from investors. Others are in the process of raising capital.

going to become a more pressing issue. There are both short and long term alternatives for dealing with this problem.

The sections that follow discuss some of the options available. But, in the longer term, it must be stressed that financial market reform is the only way to ensure the viability of the microfinance industry. However, such reform takes time and the problem could become a pressing reality before appropriate policies are in place. Some possible shorter run measures are discussed, including the international financial institutions exploring the possibility of creating hedging mechanisms for microfinance institutions.

General Financial Market Reform

Most financial market indicators in countries where MFIs operate demonstrate severe financial market underdevelopment. Ratios of private sector credit to GDP, interest rate levels, and interest rate lending spreads, all point to financial markets that are thin, and dominated by commercial banks with limited instruments available both to underpin loans and allow the effective hedging of risk. An observation that holds especially true in the area of foreign exchange fluctuations. Even where forward foreign exchange contracts are available, they are short term and expensive. The case for financial market reform and the institutional foundations of financial markets is further supported by the inability of most developing countries to supply effective instruments to deal with risks of the type described above.

Securitization of MFI Portfolios

One of the most powerful potential instruments for increasing liquidity of MFIs would be the ability to securitize their portfolios and offer them as investments to private for-profit entities located in industrial countries. If several MFIs pooled their portfolios, then the securitized instruments would have a risk structure spread over several institutions. If MFIs' financial soundness was evaluated on a regular basis by a rating agency, these instruments could be extremely attractive to foreign investors as well as to the local branches of foreign banks interested in supporting microfinance initiatives that do not have the infrastructure or expertise to do so directly.

But this solution would not be possible without the necessary financial market reform. However, neither foreign investors nor MFIs have the capability to engage in financial market reform themselves. This area is the provenance of the government and officials of the countries where the MFIs are located. In addition, the international financial institutions have substantial expertise in this area and could provide invaluable assistance if requested to do so. Therefore, the role of foreign investors as well as the MFIs themselves must be to lobby for reform and to support reform initiatives in this area.

Reforms Necessary for Securitization

Which reforms would help MFIs and their investors most in this area? Undoubtedly, the highest priority should be given to the reform of each country's secured transactions framework. If effectively done, this reform allows the assets of borrowers to serve as security for their loans. In a very real sense, it mobilizes billions of dollars of local assets as security for borrowing. Such a step would particularly benefit MFIs, their borrowers, investors, and lenders because it would allow the collateralization of MFI assets, part of which could involve issuing instruments backed by portfolios of micro loans.

Unfortunately, to date, reform in this area has either been ignored, or poorly executed. There is not one country in Latin America where the collateral framework functions effectively. There are a few countries in Eastern Europe and the former Soviet Union countries, most notably Romania, where reform has worked well. However, there are also many cases where reform has been completed but has been ineffective. For example, in the Ukraine, the World Bank is reworking a secured transactions reform that USAID implemented only 3 years earlier. Quality is key in reforms of this nature.

What Should Be Done in the Meantime?

Financial market reform of the type described, takes time. In the shorter term, lending by donors and private investment funds is on the rise. So the question becomes, what can be done to deal with the exposure to exchange rate fluctuations while these issues are addressed?

Using Currency Pools from the International Financial Institutions.

Some investors call for the direct assistance of the international financial institutions in managing MFI's foreign exchange risk. And there is some potential in this area. For example, institutions such as the World Bank, the InterAmerican Development Bank and the European Investment Bank are willing to hold assets in the foreign currency of most of the countries in which they deal. If the IFIs had an agreement with local MFIs to supply foreign exchange for loans at the original exchange rate, they could be used to provide some hedging for foreign investments in MFIs. This solution is certainly possible in principle, although there would be substantial administrative issues to be dealt with before it could be implemented. Furthermore, the IFIs could limit their potential losses from a currency depreciation by taking only a portion of the risk.

A variant of this solution would be a hedging mechanism provided by IFIs spread over a large number of countries. While the exact mechanism would require development and negotiation, the general form would be for the IFIs to provide a pool of capital that would be used to guarantee some portion of loans to MFIs against foreign exchange losses. Both lenders to MFIs as well as the MFIs themselves could take advantage of this hedging mechanism. A key feature, however, would be the appropriate pricing of the hedge. In addition, the covariance analysis indicated that exchange rates in regions tend to move together. This would mean that to participate, the regional development institutions would have to combine the risk pool of currencies with other regional institutions and the IFIs in a way that did not violate their charters but which allowed for broader risk sharing arrangements.

Experiment with Different Instruments.

Another possibility is that the foreign investors experiment with different hedging instruments, such as writing their own forward contracts with MFIs and then taking some proportion of the risk in the event of a large depreciation.

Are Subsidized Interest Rates the Answer?

Some donors provide interest rate subsidies to microfinance institutions in developing countries. (See, for example, Table 2, for the subsidy provided by

Deutsche Bank Foundation.) In the long term, however, such subsidies may well be counter productive. As previously discussed, evidence does suggest that MFIs that receive subsidies are often less efficient, have higher loss rates, and lower returns on capital than those institutions that operate on commercial principles. If microfinance is not self sustaining it will fail to make the leap from being an instrument of donor assistance, to a regular feature of financial systems in developing countries that focuses on lending to the poor. If it fails, a great opportunity will have been lost, and many will suffer as a result.

Donors as Investors

Currently many donors *lend* money to microfinance institutions. It is perhaps time that they rethink this strategy. Foreign investors in developing countries primarily invest. They do not lend. Donors should follow this example. Investing in micro lenders shifts concern away from a desire to be repaid to ensuring a good return on investment¹⁵. Even now, the distinction between loans and equity is often not as marked as would appear at first glance. Lenders often become holders of equity in institutions that run into financial difficulties. Donors as investors have a strong interest in making sure that MFIs are well run and have the capability to provide technical assistance to raise the capabilities of micro lenders. In terms of this approach, foreign exchange risk becomes one of several risks associated with an investment rather than a central factor in making a loan. Whether this is a viable option, however, depends on the level of minority shareholder rights and corporate governance in the countries in which the MFIs are located. Reform of corporate governance is another longer term issue that IFIs and donors could support.

New Instruments and the Role of Donors

The discussion in an earlier section noted the possibility of issuing bonds, perhaps by a group of microfinance institutions. The international financial institutions such as the Multilateral Investment Fund could assist in this process by providing seed money to cover the costs of early issues of such bonds. How

¹⁵ Donors could adjust downwards their desired rate of return to account for their desire to promote development and alleviate poverty.

attractive they might be to investors is unknown. In most countries in which MFIs operate, there is no fully satisfactory way of collateralizing such bonds by backing them with the loan portfolios of the lending institutions. Under such circumstances, close monitoring of the creditworthiness of the MFIs involved is the only way to ensure that bond holders will be repaid. (This puts a premium on high quality rating services). In terms of these instruments, foreign exchange risk would be subsumed under the interest rates that investors would be prepared to pay for the bonds.

An interesting initiative at the Asian Development Bank has some potential to be adapted to the problem of hedging loans to MFIs. The private sector department of the ADB is offering local currency loans to domestic financial institutions by engaging in swaps with the government in the country concerned.

“the initiative involves the ADB undertaking a local currency swap with a developing member country and using the local currency proceeds to provide long term lending to private sector financial intermediaries for on-lending to local borrowers. ADB will thus swap a given amount to the developing member country in exchange for the equivalent in local currency. At the end of 10 years...the transaction will be unwound and the ADB will repay the local currency in exchange for dollars. In the meantime, the ADB will lend the local currency to creditworthy financial institutions at a fixed interest rate.”¹⁶

This structure implies that the IFI absorbs country risk as well as that of the financial institutions to which it is lending in local currency. The ADB scheme claims that “the financial institution absorbs the commercial risk.” Of course, it is really the ADB that is also absorbing the commercial risk because it depends on sound lending practices of the local financial institution, something over which it does not have a great deal of control. Nevertheless, as a short term stopgap measure, this arrangement is worth further investigation as a means of hedging against forex risk for MFIs. It should be noted that the ADB emphasizes the importance of lending to well rated financial institutions. If some variant of this

¹⁶ Bestani, Robert and Ajay Sagar, *The Local Currency Financing Revolution*, adb.org/documents/others/local_currency_financing.pdf p.3

instrument were to be used for microfinance institutions, sound ratings from an independent rater would be a prerequisite for such transactions.

The Search for a Solution – the Final Word

Microfinance has become a high profile activity. Many donors are attracted by the possibility of delivering funds directly into the hands of the poor. In addition, an increasing number of for-profit financial institutions have taken note of the potentially high rates of return. In Latin America, successful MFIs out-perform commercial banks. The potential is clearly there. Frustratingly, the means of ensuring that the potential is realized are not yet in place.

In the longer term, the solution lies in continuing to improve the fundamentals, at the same time as working within, but not accepting, the current inadequate institutional framework that pervades most developing countries. The conclusion of this work is that foreign exchange risk is one of several problems inhibiting microfinance institutions from obtaining liquidity. As yet, donor institutions and foreign investors still play a relatively small role in supplying MFIs with funds. However, foreign lending is growing rapidly and MFIs could become much more exposed to forex risk in the near future.

Donors have a large role to play in both the short and the longer term. In the longer run, financial market development and the ability of the microfinance industry to deliver funds to the poor in a sustainable fashion depends upon reform. Profiling the problems and building a consensus for reform must go hand in hand with continuing to assist worthwhile MFIs. However, the message of this paper is that it should not be done through stop-gap measures, but rather by rethinking the role of donors and by loudly publicizing and discussing what needs to be done. Instruments, such as bond issues have potential. Securitization is possible but difficult. In both areas donors can help by initially paying some of the costs as well as by unearthing and highlighting where the roadblocks are in the system and ensuring that they find a place in reform programs of the governments of the countries involved.

In the shorter term, creative solutions to hedging risk should be explored by both the donor institutions and the socially aware lenders that are increasingly

offering MFIs foreign exchange denominated loans. Social responsibility requires that MFIs not only receive funds at an attractive rate, but also that their balance sheets do not become overly laden with foreign currency denominated liabilities. One suggestion of this work is that lenders consider hedging part of the loans themselves by writing individual forward contracts with their borrowers. The other is that donor agencies explore the possibility of setting up mechanisms, including a foreign exchange pool, to hedge part of the risk. Initiatives in all of these areas are required to ensure that the problem of MFI exposure to foreign exchange risk does not become acute and threaten the future viability of the industry.

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