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Viewing Microinsurance as a Social Risk Management Instrument

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ABSTRACT

The objectives of this paper are to highlight some of the potential and limitations of microinsurance in the context of Social Risk Management (SRM) framework to stimulate further discussion. The paper draws on existing literature on SRM and microinsurance. Where relevant, it invokes lessons from microfinance.

The authors conclude that there is potential for efficient and equitable risk management through microinsurance, but also limitations. Microinsurance may be **an** acceptable means of managing a few limited forms of risk, but **not all**. SRM practitioners need to recognize that effectiveness of any risk management instrument depends on the nature of risks, household and group characteristics and dynamics, and the availability of alternative risk management options.

SRM options should strike a balance between household risk management activities and the multiple instruments available at different institutional levels, including informal, market-based, and publicly provided mechanisms. Microinsurance is a potential part of the SRM toolbox, but risk management can be enhanced through different mechanisms or combinations of them.

KEY WORDS

social risk management, microinsurance, insurance, microfinance, vulnerability, poverty.

EXECUTIVE SUMMARY

Social risk management (SRM) is the guiding framework for the World Bank Social Protection Unit's Sector Strategy Paper, which focuses on how poor households manage risk. There has been increased interest in using finance-based means of managing risk for poor households. New evidence shows that the "finance trinity"—savings, credit, and insurance—can be used to assist capital accumulation, help smooth consumption, and improve risk-bearing. Traditionally, a major constraint to the supply of finance-based instruments to vulnerable households is the high transactions costs associated with their delivery, along with costs related to asymmetric information such as moral hazard and adverse selection, and the lack of collateral. Microinsurance is, to some extent, an extension of the microfinance model into the realm of insurance. Also, many of the pioneering attempts to provide microinsurance have been closely linked to microfinance programs and MFIs.

The objective of this paper is to highlight some of the potential and limitations of microinsurance in the context of the SRM framework and stimulate further discussion. The paper draws on existing reports on SRM and microinsurance. Where relevant it draws on lessons from the microfinance literature.

The authors conclude that there is potential for efficient and equitable risk management through microinsurance, but also limitations. Microinsurance may be **an** acceptable means of managing a few limited forms of risk, but **not all**. SRM practitioners need to recognize that the effectiveness of any risk management instrument will depend on the nature of risks, household and group characteristics, their dynamics, and the availability of alternative risk management options.

SRM options should strike a balance between household risk management activities and the multiple instruments available at different institutional levels, including informal, market-based, and publicly provided mechanisms. Microinsurance is a potential part of the SRM toolbox, but risk management can be enhanced through different mechanisms or combinations of them. Thus, it is important to understand some of the attributes of microinsurance in order to identify its position within the SRM framework.

VIEWING MICROINSURANCE AS A SOCIAL RISK MANAGEMENT INSTRUMENT: Potential and Limitations*

I. INTRODUCTION

As a result of economic and political liberalization, globalization among other forces, households¹ tend to face more risks² now than in the past (World Bank, 2000; World Bank, 2001). The rapid and profound economic, political and social changes have placed stress on traditional social arrangements that served as informal safety nets. At the same time, acute fiscal constraints in many countries have led to cutbacks in public expenditures for social services and formal safety net programs.³ Due to increase risks faced and decreased ability to manage risks, many poor and near-poor households are expressing anxiety about their perceived “vulnerability” (Narayan, 2000).

There has been increased attention at the World Bank regarding the relationship between poverty, risk and efforts to manage risk. This focus on risk is evidenced by the **empowerment-security-opportunity** framework presented in the World Development Report 2000/1 (World Bank, 2000a), and the **social risk management** framework that is the foundation of the Social Protection Unit’s Sectoral Strategy Paper (World Bank, 2001). The “social risk management” (SRM) approach (Holzmann and Jorgensen, 1999, 2000; Holzmann, 2001; World Bank, 2001) concerns itself with how, and with what

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¹ In this paper we use the term “households” to include both the household unit and individuals within the household. Admittedly there are important differences between a household and individual perspective, especially intra-household dynamics that can affect the risks and risk management capabilities of individual household members (e.g., gender and age based differences).

² Some risky events are individual or household specific (i.e., idiosyncratic risk such as illness), while others simultaneously affect many households in a community or region (i.e., covariate risk such as economic or weather-related shocks). In the literature some authors point out differences between risk and uncertainty, while others argue that they are interchangeable. In this paper, we assume that they are interchangeable (see Siegel and Alwang, 1999, p.3).

³ Among the world population of 6 billion, less than a quarter has access to formal social protection programs (Holzmann, 2001).

instruments, society manages risks. Hence, SRM refers to the social management of risk and not to the management of social risks,— with a focus on the poor.

SRM promotes proactive ex ante risk management strategies such as risk reduction and risk mitigation as substitutes and/or complements to reactive ex post risk coping⁴. The SRM approach considers a broad spectrum of options for risk management ranging from private and informal to public and formal mechanisms. These instruments help households manage risk, with interactions and linkages from the household up through community, regional, national, and international levels (see Holzmann and Jorgensen, 1999; 2000; Siegel and Alwang, 1999). Financial and insurance instruments are possible components of an integrated SRM strategy.

Increased interest has emerged for using finance-based means of managing risk for vulnerable households.⁵ New evidence shows that the “finance trinity”—savings, credit, and insurance—can be used to assist capital accumulation, to help smooth consumption, and improve risk-bearing (Zeller, et. al. 1997; Sebstad and Cohen, 1999; Rutherford, 2000). A major constraint to the supply of finance-based instruments to vulnerable households is the high transactions costs associated with their delivery, along with problems related to asymmetric information such as moral hazard and adverse selection, and the lack of collateral. Microfinance programs and microfinance institutions (MFIs) – which cater mostly to the poor and the informal economy⁶ - have proliferated in recent years. A major feature of most MFIs is that they provide an institutional structure to aggregate their “micro” clients’ demands for finance and simplify the design and delivery of finance services by organizing members into a group or association (see box, below). MFIs combine aspects of both formal and informal

⁴ In the SRM framework, risk reduction and risk mitigation can complement "good" risk coping practices, but substitute (i.e. "crowd out") for destructive or "bad" practices. For example, removing children from school to cope with adverse outcomes is one "bad" practice that might be crowded out.

⁵ The poor desire a range of financial services to address different needs, including working and investment capital, funds to cover lifecycle events, health, education and housing related expenses, loans for consumption smoothing, and emergency loans in times of crises and disasters (Rutherford, 2000).

⁶ The informal economy includes owner operators of small unregistered businesses, self-employed, and wage workers. Most of the rural economy and about 50% of the urban economy in LDCs can be considered as part of the informal economy. Not all households in the informal economy are poor. Although there is a high degree of overlap. However, even non-poor households in the informal economy often have difficulties accessing formal finance and insurance instruments (see World Bank, 2000b)

finance mechanisms (Juetting, 1999).⁷ MFI programs have been perceived as a qualified success in terms of providing financial services to poor households and financial sustainability (see Murdoch 1999;2000).⁸ Microinsurance is, to some extent, an extension of the microfinance concept into the realm of insurance - to deal explicitly with risk management. Many of the pioneering attempts to provide microinsurance have been closely linked to existing microfinance programs and MFIs, because existing networks make it less costly to deliver microinsurance products. (Brown and McCord, 2000).

Microinsurance can be a key component of an SRM-based strategy, especially when credit and savings services are also available concurrently. However, SRM practitioners need to recognize that the effectiveness of any risk management instrument will depend on the nature of risks, household and group characteristics and dynamics, and the availability of alternative risk management options.

The objective of this *paper* is to use the SRM framework to highlight some of the potential and limitations of microinsurance and stimulate further discussion. The paper is informed by existing reports on SRM and microinsurance.⁹ Where relevant, it draws on lessons from the microfinance literature.

The SRM framework is explored in the next section where we focus on the definition of household vulnerability, risks, risk responses and outcomes. Then microinsurance is viewed as a potential SRM tool to reduce vulnerability. Next, a section examines some basic insurance principles and their relevance for microinsurance. Links between microfinance and microinsurance are then described, followed by a section devoted exclusively to microinsurance issues. Finally, there is a concluding section.

⁷ For example, use of group liability as a substitute for formal collateral.

⁸ MFIs have had mixed records in reaching the poorest households and in terms of financial viability.

⁹ For detailed information on the SRM framework see Holzmann and Jorgensen 1999;2000; World Bank, 2001 and www.worldbank.org/sp. For detailed information on microinsurance see Brown and Churchill, 2000; UNCDF, 2000; Brown and McCord, 2001; and www.mip.org ; www.cgap.org ; www.microinsurancecentre.org..

What is “Micro” about Microfinance and Microinsurance?

The “micro” refers to the type or size of transaction. The terms finance (e.g., credit, savings) or insurance refer to the type of financial instrument. Microfinance (MF) and microinsurance (MI) instruments are designed for low-income households who transact relatively small amounts of financial services. They usually can not directly access formal finance or insurance instruments because of high transactions costs, along with problems of moral hazard and adverse selection, lack of collateral, etc. MF and MI are attempts to aggregate the “micro” clients into a group or association and to simplify the design of the instruments in order to lower transaction costs and other problems using a combination of formal and informal finance and insurance arrangements (see Dror and Jacquier, 1999; Juetting, 1999; Brown, et. al., 2000).

II. VULNERABILITY AND SOCIAL RISK MANAGEMENT

We begin by discussing the concept of household vulnerability¹⁰ and how it is related to actions to manage risk within the SRM framework.¹¹ Vulnerability can be decomposed into several components of a “*risk chain*”: a) the *risk*, or risky events, b) the options for managing risk, or the *risk responses*, and c) the *outcome* in terms of welfare loss. A household is vulnerable *to* suffering an undesirable outcome, and this vulnerability to a welfare loss comes *from* risks.

Household Vulnerability Defined

A household can be vulnerable to future loss of welfare below socially accepted norms caused by risky events. The degree of vulnerability depends on the characteristics of the risk and the household’s ability to respond to risk. Ability to respond to risk depends on household characteristics – notably their asset-base (broadly defined). The outcome is defined with respect to some benchmark—a socially accepted minimum reference level of welfare (e.g., falling below the poverty line). Vulnerability also depends on the time horizon - a household may be vulnerable to risks over the next month, year, etc.

Vulnerability begins with a notion of *risk*. It is assumed that the risk is characterized by a probability distribution of events.¹² Households can *respond to*, or manage, risks in several ways. They can use formal and informal risk management

¹⁰ We use the term households to include individuals and households. The vulnerability of individuals within a household and intra-household dynamics can also be important to understanding household vulnerability.

¹¹ See Alwang, Siegel and Jorgensen (2000;2001) and Holzmann (2001) for more details.

¹² These events are themselves characterized by their magnitude (including size and spread), their frequency and duration, and their history – all of which affect vulnerability from the risk.

instruments, depending on their access to these instruments.¹³ Following Holzmann and Jorgensen (1999; 2000), it is possible to separate risk management into *ex ante* and *ex post* actions. *Ex ante* actions are taken before a risky event takes place, and *ex post* management takes place after its realization. *Ex ante* risk reduction strategies can reduce or eliminate risk (e.g., eradication of malaria-bearing mosquitos) or lower exposure to risks (e.g., malaria pills, mosquito nets). It is also possible for a household to take *ex ante* risk mitigation actions that provide for compensation in the case of loss. Risk mitigation includes formal and informal responses to expected losses such as self-insurance (e.g., precautionary savings in financial or other assets), social networks and formal insurance. *Ex post* risk coping activities are responses that take place after a risky event is realized and involve activities to deal with realized losses such as such as selling assets, seeking “emergency” loans (from relatives and friends, moneylenders, banks), removing children from school, migration of selected family members, seeking temporary employment. Some governments provide formal safety nets such as public works programs, food aid, and other transfers that can help households cope with risk.

Risk, combined with the household responses lead to the *outcome*. The *outcome* of the risk and risk response process, in terms of welfare loss relative to a given benchmark¹⁴ (e.g., falling below the poverty line), is a major interest of social policy. Vulnerability is the forward-looking state of expected outcomes, and the existence or absence of welfare losses in one period are neither necessary nor sufficient conditions for the existence of vulnerability in the future. A household might be able to mitigate or cope with a risk (or set of risks) in a given period, but the process can result in limited ability to manage risk in subsequent periods, especially when assets (broadly defined) are degraded (see Siegel and Alwang, 1999).

Improved mitigation (e.g., using microinsurance) might be preferred to relying on *ex post* coping, but mitigation only provides compensation for losses after the household

¹³ Examples of formal financial risk management tools include loans with flexible repayment schedules, emergency loans, savings, and insurance. Informal financial risk management tools include burial societies, ROSCAs (rotating savings and credit associations), moneylenders, and mutual aid.

¹⁴ Welfare losses, in and of themselves, are not sufficient to identify a household as vulnerable. Vulnerability is associated with those welfare losses that leave a household below a socially defined minimum level.

is impacted by a risky event.¹⁵ Compensation for losses, particularly in the case of MI, is usually less than the actual losses suffered – so households must resort to coping strategies to compensate for remaining losses. Risk mitigation might prevent a household from falling below the poverty line in a given period, but it might increase household vulnerability in the future. Improved risk mitigation might be preferred to risk coping, but in both cases losses are suffered.

Actions to manage risk can take place at different forms and levels, and these actions can affect risk and vulnerability at other levels (see Holzmann and Jorgensen, 1999, 2000; Siegel and Alwang, 1999). The levels are: micro (individual, household); meso (community, local government); macro (regional, national government); and global (multinational, international). Policy options taken at higher institutional levels may lower or increase risk or strengthen or weaken risk management capability at lower levels. For example, community investments in sanitation can reduce household risk of disease. Investments at higher levels can also better enable institutions at lower levels to respond to and manage risks. For instance, international disaster relief programs help households cope with risks, and disaster preparedness programs reduce exposure of communities and households to risks.

SRM practices can intervene at any of these levels, and the optimal level of intervention depends on the characteristics of the risk, the characteristics of the “thing” (i.e., asset stock, income flow) at risk, and the web of formal and informal risk management practices. Take the case of health risks, for example. Health risk management could be enhanced by micro-health insurance, or by expanded sanitation coverage, improved immunization, community health education, etc. The optimal risk management practice depends on alternatives at different levels and their costs. See Annex 1 and 2 for more detailed examples of the risk chain and risk management options at different levels.

Much of the recent interest in microinsurance has been due to the lack of governments taking an active role in risk reduction and also their lack of providing

¹⁵ Risk mitigation can be considered an ex ante contractual arrangement (either formal or informal) that specifies some compensation for losses, while risk coping includes actions by households in response to a risky event. Since risk mitigation usually only provides partial compensation for losses, households need to cope with means to compensate for the remaining losses.

formal safety nets. The provision of formal safety nets might actually crowd out alternative household risk management practices (e.g., risk reduction or mitigation), because the household might think it can depend on the government, donors or NGOs to help them in times of crisis. However, formal safety nets are usually not provided in a transparent and timely manner limiting their effectiveness. Vulnerable households might not be able to afford the “luxury” of devoting scarce resources to risk reduction or mitigation.

SRM recognizes a wide range of policies, investments, institutional changes, etc. that can be considered in a holistic risk management approach. One path to improve risk management is to enable vulnerable households to access a wider range of formal financial instruments. These instruments should, where possible, strengthen and/or be linked to informal arrangements. This is mostly the case of microinsurance.

III. MICROINSURANCE AS A POTENTIAL SRM TOOL

A major motivation for SRM interest in MI is that certain households have been excluded from existing insurance schemes because: a) formal insurers have done little to reach out to those segments that are outside the mainstream formal economy (e.g., low income households, informal sector, rural households) of the populations; b) the excluded groups lack the empowerment and capacity to access formal insurance, c) there is a need to expand and strengthen risk and resource pooling at different levels to help excluded households take advantage of the potential benefits of risk and resource pooling.

The first reason is related to the viability of privately supplied insurance products in an environment characterized by imperfect information and high transactions costs. Groups and associations of households can be used to gather information and reduce transaction costs and make micro clients more attractive to private insurers and/or to allow them to organize as an insurance mutual. The second reason holds out promise that, in addition to better enabling clients to manage risk, MI can help empower groups and associations which helps them access improved insurance services and possibly has other benefits. Another dimension of empowerment is social inclusion, whereby households outside groups and associations might achieve improved access to risk

management instruments either as individuals or as members of groups.¹⁶ The third reason is related to the concept of risk and resource pooling, which are the foundation of insurance as a mechanism for “risk transfer”. Poor households and those in the informal economy often lack access to broader risk and resource pools because of their economic or geographic remoteness and/or their poverty, and lack of information on the side of both the households and potential insurers. Households outside the mainstream economy need assistance in order to attain similar risk management capabilities. This assistance might include improved access to risk and resource pools for both insurance and reinsurance. Better information about these excluded groups can make them more accessible as clients to insurers and re-insurers.

All these reasons help justify a public sector role in facilitating MI. Government clearly has a role in addressing market and information failures, and empowerment has many dimensions of a public good. Empowerment, in turn, can help facilitate efforts aimed at risk reduction (e.g., community improvements in water and sanitation infrastructure). There is a strong rationale for government assistance to provide information and technical assistance for households to access broader risk pools and/or subsidize some of the costs of insurance as part of a pro-poor policy – especially in the case of government failure to provide basic public goods and services.¹⁷

It is important to understand some of the attributes of MI in order to identify its position within the SRM framework. As noted in a recent critique of microinsurance (Brown, et. al., 2000, p.5): “Before rushing to jump on the insurance bandwagon, ...{it is important to} consider three questions regarding microinsurance: 1) do clients want assistance in reducing vulnerability to the risks to be covered by insurance?, 2) is insurance the most appropriate financial service for providing protection?, and 3) are clients willing and able to pay a price at which the insurance can be delivered profitably?” The issue of social inclusion, including the targeting of poor socially excluded households is also important.

¹⁶ A major problem of some efforts aimed at empowering groups is that the poorest households are often excluded from such existing social networks. For example, Juetting and Tine (2000) point to evidence from Senegal (West Africa) indicating that community-based “health mutuals” have not been able to insure the socially excluded.

¹⁷ Some governments are interested in MI because of their own failure to provide public goods and services. The existence of many MI schemes for health insurance have actually evolved in the context of

IV. BASIC INSURANCE PRINCIPLES AND MICROINSURANCE

In this section we briefly point out a few basic principles of insurance that are important to the following discussion of microinsurance.

Insurance and the characteristics of risk

Risks can be classified along a number of dimensions: idiosyncratic (i.e., individual or household specific) vs. covariate (affecting many households simultaneously), low- vs. high-loss, single- vs. repeated events, and permutations of these classes. Some risks are insurable, while others are not (see Siegel and Alwang, 1999, p.36). The viability of insurance depends critically on the characteristics of the risk. To qualify for economically feasible protection from private insurance, the criteria for the "ideal risk" should be met as far as possible. The most important of these criteria are that: a) the risk must be randomly and independently distributed among insured clients, b) risks and losses of insured clients should be determinable, measurable and not catastrophic, and c) the risk and loss should be not be influenced by the actions of insured clients (e.g., no moral hazard).

“Non-ideal risks” such as drought and epidemics appear frequently and repeatedly in many LDCs, and their existence prevents private insurance markets for these risks from emerging. Additionally, insurance for objects (e.g. physical assets, health) is more easily provided than is insurance for activities and flows, such as income loss. Generally, activities and flows are more difficult to determine, measure and monitor, and there is more potential for moral hazard. Insurance schemes must carefully examine the risks they cover. Risk and resource pooling require continuous analysis of the risk structure and the likelihood of covariate and catastrophic risk. Claims for losses also need accurate determination, monitoring and there is a need for administration capacity to process and distribute indemnity payments.

Insurance and Risk Transfer

Insurance is a risk-financing transfer under which an insurer agrees to accept certain financial burdens arising from losses by the insured. It is a contractual agreement between two parties, whereby the *insurer* agrees to compensate for losses (indemnity payments as specified in the insurance contract) in return for the *insured's* premium

extreme government failure in the provision of health services (ILO/PAHO, 1999; Preker, et. al., 2001).

payment. Basic elements required for an insurance transaction include: a contractual agreement, a premium payment, a benefit payment conditioned on specific circumstances defined in the contract, and a pool of liquid financial resources held by the insurer to reimburse claims.

Reinsurance is a risk-financing transfer under which the re-insurer agrees to accept certain financial burdens arising from losses by the insurer. Typically a re-insurer insures an insurer against extremely large losses (e.g., catastrophic losses) and draws from a much broader risk and resource pool to be able to make such payments, when needed. Therefore, most private re-insurers tend to be international financial companies.¹⁸ An important point of insurers and re-insurers is the need to interact at different “levels” e.g., to pool risks and resources at household, community, national and international levels.

Risk and Resource Pooling

The basic underlying principle of insurance is the sharing of risks by pooling resources. The *pool of resources*, as opposed to a *pooling of risks*, is a key element of the concept of viable insurance. Pooling of resources, especially the pooling of individuals whose premium payments exceed the expected value of the loss, allows a group to achieve a stronger financial resource base as the group becomes larger. The strengthening of the financial resource base is not due to the tendency of a large number of independent risks to cancel each other out. This “pooling of risk” requirement is often cited as a precondition for insurance and is based on an application of the law of large numbers (Williams, et. al., 1985). The focus on the pooling of resources as opposed to the pooling of risks is critical for understanding the potential and limits of MI, especially financially sustainable MI to reach the poor. Some MI advocates think that private insurance and reinsurance companies seek out the poor in LDCs as potential clients in order to broaden their risk pool, which makes the transfer of risk less costly.

Insurers and re-insurers seek means to broaden their risk pool and their resource pools – with clients whose premium payments exceed expected losses. A “good insurance risk” is a client whose risks and losses are not perfectly positively correlated

¹⁸ That is, reinsurance is a means of broadening the resource pool based on financial capacity and provides “deep pockets” to pay claims for catastrophic losses.

with other clients and whose expected losses do not exceed premium payments. Adverse selection, occurs when clients with high risks and expected losses want to obtain insurance, while those with lower risks and expected losses are more reluctant to see the benefits of buying insurance. Adverse selection and the issue of voluntary versus mandatory participation are important determinants of the financial sustainability of microinsurance schemes.

Community-based MI schemes with poor members face the greatest threat from their limited financial resource pool to start with.¹⁹ Significant covariate risk, along with catastrophic or even repeated idiosyncratic risk can deplete the community's resource pool and potentially bankrupt a community-based scheme. Thus, an effective reinsurance mechanism might be required to insure the community-based MI scheme against excessive losses. Of course such reinsurance would also incur an extra cost for insurance.²⁰

Pure Insurance Premium vs. Actual Insurance Premium

The pure risk premium of an insurance contract is based on actuarial risk-loss calculations. The pure premium considers the probability of risks occurring and the expected losses. The actual premium includes the pure premium plus the: a) transactions costs – all costs associated with the insurance contract design and delivery, collection of premium payments, and the assessment of losses and indemnity payments by insurers, b) extra costs associated with uncertainty – costs that insurers often add to the pure premium to take into account any uncertainty about the calculations used to calculate the pure premium, and c) profits for the insurers and reinsurers.

It is often claimed that "vulnerable households are willing to pay the premiums, but they do not have access to insurance, thus ..." This logic implies that vulnerable households have some demand for insurance and a corresponding "willingness-to-pay". However, because substantial gaps exist between the pure and actual insurance premium, there can also be wide gaps between the assumed willingness-to-pay (i.e., demand) and real cost (i.e., supply) of insurance. When the costs of provision of insurance to small-

¹⁹ In addition, many community-based mutual insurance schemes also have a limited human resource pool. The lack of capacity to manage an insurance mutual is also a threat to the viability of such schemes.

²⁰ At the present time, NGOs and donors that support MI schemes often act as the reinsurer (either formally or informally) in an attempt to maintain financial sustainability of the scheme. An innovation piloted by the World Bank and ILO through the Development Marketplace research project is to try and institute more formal reinsurance mechanisms to support community-based health microinsurance.

scale clients in an environment where information is costly and imperfect are included in the calculus, demand may be substantially lower than anticipated.

Another major issue is the "ability-to-pay" insurance premiums. Vulnerable households are often too poor to pay the insurance premiums, especially as lump-sum payments. Hence, a major focus of microinsurance has been to identify means (i.e., institutional arrangements) to lower the gap between pure and actual insurance premiums, and to design insurance contracts with low premiums (including subsidized premiums). In addition, attention has been devoted to the means of collecting premiums, with attempts to have small periodic payments spread over the year (like microfinance loan repayments).

Another aspect of client demand, and the setting premiums and benefits, is their perceptions (or misperceptions) of risks and potential losses. Vulnerable households often lack information about risks and expected losses, especially in this period of rapid economic, social and political changes. In addition, insurers often lack the ability to accurately calculate the probabilities of risks and expected losses, resulting in a high degree of uncertainty for setting premiums and indemnity payments. Transaction costs can also be very high. A critical public sector role can be to improve the availability of information about risks and losses to vulnerable households and to insurers and reinsurers to help lower the degree of uncertainty about risks, expected losses, and premiums.

Micro Design of Insurance

The micro design of MI can empower individuals and groups to express their needs and priorities (e.g., the types of risks and coverage), and to manage insurance transactions in a manner that minimizes moral hazard, adverse selection, transaction costs, and other problems of asymmetric information. MI can foster group management – “triple autonomy” whereby each MI unit: (a) defines its own insurable risk; (b) organizes financing of the insurance; and (c) exercises control over the flow and management of its funds (McCord, 2000). In doing so, the insurance contract introduces a complex financial concept as an extension to familiar social interactions. Thus, MI can bridge formal and informal mechanisms for providing risk management instruments that are tailored to the needs of vulnerable households and groups.

Due to the limited depth of the resource pool of vulnerable households, most MI programs have covered only a limited range of risks and not covered catastrophic losses. In cases where they have been more ambitious, they have required subsidies of premium payments and/or external financing of the resource pool. Limited coverage results because of the need for low premiums, although vulnerable households might face high risks and expected losses. As a result, many MI programs with limited premiums and benefits resemble “forced” savings accounts for high probability losses. In these cases, premium payments become a cash flow management strategy as a form of “pre-payment”. But, because of the high transactions costs associated with their delivery, they are not a particularly efficient savings mechanism. Interestingly, as discussed later, in an attempt to bypass regulations of insurance activities, some MI programs, especially those linked to MFIs, have called their insurance-like product a “mutual fund” or savings product. Alternatively, in cases that MFIs face regulations on savings, they are calling similar products “insurance.”

Credit, savings and insurance can all can be used, to some extent, for risk mitigation to provide “insurance” for vulnerable households (see box). However, “saving up” and “saving down” are forms of self-insurance, and “saving through” is the only type of insurance that is formally based on risk and resource pooling.

Saving Up, Down and Through: Savings and Insurance

Vulnerable households can use savings for risk management in three ways:

- 1) Saving Up: saving and building up financial assets in advance of need to smooth consumption or meet lumpy expenditures (e.g., life-cycle events),
- 2) Saving Down: use credit for current expenses and/or investments and repay the loan from future savings, and
- 3) Saving Through: contribute small amounts of savings periodically into group resource pool to get a lump sum loan payment (e.g., ROSCAS), or similarly pay small regular premiums for insurance (based on risk and resource pooling) which pays out when a covered event occurs (see Rutherford, 2000).

V. MICROFINANCE AND MICROINSURANCE

Discussions of microinsurance are usually closely linked to microfinance (Brown and Churchill, 2000b; UNCDF, 2000; Brown and McCord, 2001). A strong link exists between MF and MI schemes, as the former have piloted many of the latter. Additionally,

some MFIs have perceived a demand for increased risk management product that can protect both their clients' and their own interests. It is believed that MI can: 1) reduce the negative impact of risky events on client's ability to repay loans and serve as a collateral substitute, thereby helping existing clients and expanding coverage to riskier clients, 2) provide an additional financial service and source of revenue for the MFI, and therefore 3) improve the financial sustainability of the MFI. Donors and NGOs are also interested in MI because they want to strengthen existing MFIs, and build upon the perceived successes of MF programs. Also, donors and NGOs have had an important role in facilitating and funding many MFIs.

MI programs can learn from the experience of MF programs.²¹ Credit/finance and insurance markets face similar problems of information asymmetries and other sources of market failure so schemes that address problems such as moral hazard, adverse selection and high transactions costs might be effective for both. MFI innovations such as group lending and mutual enforcement have helped overcome these failures by using social dynamics. In addition, some of the targeting and screening mechanisms used by MFIs to target poor households and identify "good clients" can be applied to MI.²² Links between MFIs and MI extend to institutional and regulatory issues, issues of financial and economic sustainability, and potential for social inclusion and exclusion embodied in MF/MI design.

Microfinance programs have proliferated in recent years and have emerged as important actors in the SRM equation. Some of the best know of such programs include the Grameen Bank in Bangladesh, the Bank Rakyat of Indonesia, and BancoSol in Bolivia (Morduch, 1999; Morduch and Sharma, 2001). Numerous community banks have also emerged, particularly in Latin America. These programs strengthen households' risk management by providing credit to finance new economic activities and adopt new technologies to help raise incomes, and use group dynamics to improve access and lower the costs of this credit.

²¹ Note, however, that alternative (i.e., non-MFI providers) delivery mechanisms are possible: MI institutions might be formed independently while exploiting the desirable design features of MFIs and existing networks.

²² Screening improves targeting efficiency (e.g., in terms of high repayment rates), but it has been associated with exclusion or bias against poorer households or those not belonging to a specific group or association - thereby decreasing the targeting equity.

In some cases, MFIs mobilize savings, providing households with fungible financial reserves that can be used to smooth consumption. As incomes grow, households are better equipped to manage risk through precautionary savings, asset diversification, and short-term borrowing. However, in many cases, regulatory restrictions that prevent MFIs from providing savings and thereby restrict the use of savings as a means of risk management. This is one reason that there has been interest by MFIs to consider insurance as an alternative risk management instrument. However, efforts toward financial reforms to allow MFIs to provide savings products might be more appropriate.

MFIs are also interested in insurance because microfinance schemes – as often structured - can increase vulnerability of clients via risks of loan default, especially when it ties households into rigid repayment schedules. Risky events can threaten timely loan repayment. Households, rather than suffer social sanctions from default, tend to resort to “bad” coping practices that increase their vulnerability to future losses. Provision of insurance might strengthen and broaden participation in MFI schemes by vulnerable households by increasing their creditworthiness. Alternatives exist here as well. For instance, better risk management might be attained through flexible repayment schemes for loans. Evaluation of MI desirability must include examination of these options.

Examples of an MFI providing an insurance product that meets its own and its clients needs simultaneously are “life insurance” and “property insurance”, which when offered, are usually mandatory conditions for receiving loans (Brown and Churchill, 2000). Life insurance is offered by some MFIs, but is often really loan insurance in the event of death, since it guarantees that if the client dies his or her outstanding debts will be repaid, with or without any survivor benefits. In some cases MFIs offer property insurance, but it usually only repays the outstanding balance of a loan used to purchase the insured asset - and not the replacement value or any income losses. In both of these cases, the MI benefits both the client and the MFI, although it might be argued that the MFI is the main beneficiary – since households might still be left vulnerable with respect to their future income earning and risk management potential.²³

²³ A possible problem with linking microinsurance to microfinance loans occurs if a borrower decides not to borrow during a certain period. What happens to their insurance coverage?

Microinsurance is potentially a much more complicated financial instrument than microfinance. Brown (2000, p.1) notes: “More so than credit or savings, offering insurance is an inherently risky business (pardon the pun). In order for an insurance scheme to be sustainable, its managers have to be able to predict the future – setting prices for insurance products requires calculations of how many clients will die in the next year (life insurance) or the value of assets lost, stolen or destroyed (property insurance or the cost of annual medical treatment (health insurance) – and be reasonably accurate on a consistent basis. If these predictions prove to be inaccurate, unexpectedly high insurance claims can quickly decapitalize an institution.” Microinsurance is also more prone to corruption and mismanagement because of the nature of insurance – where premiums are collected and held in reserve for future payments. In fact, the history of MFIs offering microinsurance has not been promising (Brown and McCord, 2000).²⁴

Some microinsurance examples

Examples of MI are harder to find than MFIs as the former are relatively new innovations²⁵. The most prominent forms of MI are health insurance and life insurance programs. To date, micro health insurance programs have usually been carried out as part of an overall “health care package” that links the health insurance to a health facility. The ILO, Grameen Bank, SEWA (see below), FINCA (all MFIs), for example, all have health insurance programs linked to health providers. In many cases, insurance is only offered to participants in their MFI programs. Results from the few empirical studies so far are mixed, showing that poor people can organize insurance schemes, but that it is difficult to include the poorest of the poor in them. High opportunity costs of time, active exclusion by wealthier participants, and problems of adverse selection are some of the factors behind the difficulties in integrating the poorest of the poor into MI programs (Juetting, 2000). Furthermore evidence to date indicates that many MI health schemes are dependent on outside financing and subsidies (Baeza, 2000)²⁶.

²⁴ According to Brown (2000, p.1): "... for every successful example of a microinsurance product {linked to MFIs} there are several examples of spectacular failures that often leave clients without an protection (despite having paid their premiums) and the providing institution bankrupt."

²⁵ A compendium of microinsurance schemes was prepared by the ILO, see Lee (1999). See ILO/PAHO for a review of micro health insurance schemes in Latin America and the Caribbean.

²⁶ In a review of MI schemes in Latin America associated with the ILO's STEP global program, Baeza (2000) found that all were dependent on subsidies and almost all were dependent on external financing.

Examples of MFI-related MI life insurance programs include FINCA International (Uganda, Tanzania and Malawi), Delta Life Insurance (Bangladesh), and Card Bank in the Philippines (UNCDF, 2000). In India, the Self-Employed Women's Association (SEWA) began as a result of the absence of life insurance for women in the informal sector (Hauch, 1997). This absence was due to: 1) doubt that poor women could pay premiums (formal sector life insurance is based on 50-50% employee-employer contribution), 2) difficulty in collecting premiums due to irregular cash flows in the informal sector, and 3) poor women are considered a high risk because of their living conditions. SEWA originally joined forces with the public sector insurance company and lobbied for government matching contributions. SEWA then had a special insurance department linked to their banking services. Recently they have considered setting up an independent insurance cooperative. The SEWA "insurance package," includes life insurance for the member, health insurance, asset insurance (for housing and equipment) in case of riots, floods, fire, and insurance for accidental death or disability. It now boasts membership of more than 20,000 people. The program faces many challenges, such as an ongoing debate about mandatory vs. voluntary participation by members, and about means of financing premiums. There has been a recent move toward voluntary participation and use of annual premium payments for year-to-year coverage and interest from fixed savings accounts at the SEWA bank to finance premiums. SEWA insurance is subsidized, and without the active financial support from the Indian Government and German Technical Cooperation, SEWA's financial viability is questionable (Juetting, 2000).

VI. MICROINSURANCE ISSUES

The demand for, supply of, and institutional arrangements for microinsurance are all critical determinants of MI viability. As emphasized in this paper, there is an assumed logic that poor households and those in the informal economy have some unmet demand for insurance because they: 1) face many risks, 2) are excluded from most formal types of insurance, and 3) traditional informal risk management arrangements and formal safety nets are being threatened or are incapable of managing short-term risk in an efficient manner. However, understanding of poor households' needs, preferences and expectations with respect to the demand for MI has been limited by a small research base

(Brown and McCord, 2001). The demand for MI is also a function of the availability of alternative risk management options. Much of the existing literature on microinsurance, focuses attention on supply and institutional issues – the design and delivery of MI. For this reason, we also chose to focus on design and delivery issues. This supply-institutional focus is only a partial picture, and it helps highlight a critical gap in the assessment of MI as an SRM instrument.

Type of risk and alternative risk management strategies

A critical message from the SRM framework is that risk management should be treated within a holistic framework that recognizes multiple sources of risk and suitable risk management options for these different sources. Microinsurance is best able to address idiosyncratic, low loss events, and the financial viability of the MI may be enhanced if it covers single-event types of risk. Alternative SRM measures to address idiosyncratic risks and low loss events include preventative measures, strengthening informal arrangements, more flexible credit and savings products from MFIs. The poorest of the poor, however, usually only have access only the weakest forms of informal risk management arrangements, and might not be members of groups or associations. They, thus, might be excluded from many of these risk management alternatives. The people who are most vulnerable to risks covered by MI may also be those who are most likely to be excluded from participation in MI. Furthermore, the poorest of the poor often lack human and property rights, which exacerbates their exclusion from formal RM options.

Covariate and high-loss forms of risks are best managed through emergency loans and formal safety nets. MI products might not be easily suited to help households manage covariate and high-loss forms of risk, but there still is scope to consider how they might be designed in an appropriate manner to do so.²⁷ In reality, many vulnerable households are most averse to covariate and high-loss forms of risk, and they often adopt inefficient behaviors (e.g., “safety-first” practices in agriculture to assure food security,

²⁷ An innovative insurance instrument under consideration for dealing with covariate and high-loss risks are "index based insurance" products (Skees, et. al., 1999). The basic principle of index based insurance is to insure against the source of risks as opposed to insuring against the economic losses themselves – with objective and transparent events acting as "triggers". Index-based insurance products can lower transaction costs, and eliminate problems associated with moral hazard and adverse selection. At the present time, there is a World Bank Development Marketplace pilot study where weather based index insurance is being

see Siegel and Alwang, p.15-16) that lead to lower expected incomes. As a consequence, they tend to adopt destructive coping strategies when the risky event is realized. In either case, the outcome can lead to increased household vulnerability over time.

Program design for microinsurance

The design of MI programs is a critical determinant of their success. Design affects the ability to overcome information asymmetries and reduce transactions costs; these factors determine, to a large extent, the financial viability of such programs. To date, the types of risks and services provided by microinsurers have mainly been limited to minimal health insurance coverage and small-scale death payments. However, identification of risks and coverage of services is only one part of the overall program design. For example, multiple delivery models exist, even in the case of health insurance. Other design issues include: premium amount, eligibility and degree of inclusion/exclusion of potential clients, specific coverage (triggers for indemnity, indemnity amount), rules for claimants, use of copayments (in the case of health insurance) and other mechanisms to minimize moral hazard. Premium collection mechanisms are another important design issue. Arrangements for pooling and transfer of risk – within the insured group, and/or outside the group to insurers and re-insurers become critical. Trade-offs exist as well - for example, there is a clear trade-off between the cost of premiums, the value of benefits and the depth and spread of coverage.

Design of MI also has implications on the demand for insurance. McCord (2000a) found serious weaknesses in “the insurance culture” in LDCs, as misunderstandings about premiums, levels of coverage, and indemnity payments persist. Levels of coverage and low premium payments interact with the lack of “insurance culture.” For example, in the case of micro health insurance, because coverage is often limited and premiums are low, MI participants treat the program as a type of prepayment of normal health fees. They often feel cheated if they do not recover their premiums as indemnities, and the most important determinant of financial success—the pooling of risks and resources—is lost. Inadequate skills and knowledge among potential insurance providers and among government regulators compound this lack of insurance culture.

considered as a type of crop insurance.

Delivery of microinsurance

Several health insurance delivery models have been piloted in developing-country contexts (McCord, 2001; Brown and McCord, 2000). A major focus of the different delivery models has been to deal with the question: How can we lower the transaction costs and costs associated with asymmetric information? However, more attention is currently being devoted to the critical question: Who bears the financial risks of the insurance contract?

In the *partner-agent model*, insurers, health care providers and MFIs work together to bundle an insurance-health care package. In this case, the insurers assume financial risks and the MFI serves as a “matchmaker” to provide lower-cost links between the other parties. FINCA-Uganda is an example of the partner-agent model, whereby the MFI helped forge alliances with formal-sector insurance and health care providers (see Annex 3). An alternative example of the partner-agent model is the Friends of Women’s World Banking in India where the MFI served as an umbrella organization for smaller MFIs. The umbrella function helped broaden the risk/finance pool. In a *community-based insurance* model policyholders are owners and managers of all aspects of insurance operations; presumably ownership helps monitor moral hazard and reduces transactions costs. The community assumes financial risk, unless it is able to transfer some of the risk to other communities, formal insurers or reinsurers. CARD Bank in the Philippines recently converted its life insurance program into a Mutual Benefit Association, a version of a community-based (mutual) model. The *full-service model* is similar to formal sector insurance provision, whereby the MFI as the insurer is responsible for managing and financing all insurance operations, and assumes financial risks. An example of the full-service model is SEWA; another is the Canadian Cooperative Association’s program (UNCDF, 2000). The final management example is the *provider model*, where the health care provider and insurer are the same party, with insurance coverage limited to services available from the health care provider. The insurance provider assumes financial risks. This model is similar in many aspects to the HMOs widely found in the United States.²⁸

²⁸ Health Maintenance Organizations (HMOs) are a relatively new innovation in managed health care. They are a form of insurance that integrates health service providers and insurance firms. An HMO is a

These four models have shown varying degrees of success but several problems shared by all (McCord, 2000; Brown and McCord, 2000). Some models had incentives for preventive care, while others did not. While some of the examples had limited coverage, which was generally recognized as the price to be paid for low premiums. LDC clients, particularly the poor, were found to be sensitive to premium price and payment schedules, and even with low premiums, regular collection of premiums was a problem. Low premiums, by necessity, limit coverage, so that an important type of insurance—catastrophic coverage—is lost. Coverage for large-scale covariate risks – especially in community-based schemes - is impossible without substantial deepening of the risk and resource pool. More attention needs to be devoted to alternative means of expanding the risk and resource pools of community-based MI programs. Expansion can be achieved by grouping communities or through formal insurers or reinsurers. Many of the MI schemes that required an active role from MFIs or were community-based placed additional management burdens on institutions and organizations lacking specific insurance skills, were prone to fraud, and few achieved financial sustainability.²⁹

McCord (2000a), McCord and Brown (2000) and Brown, et. al. (2000) conclude that there is no single optimal health insurance model. The appropriate model depends on the availability of local health care services, the existence of insurance companies willing to service the poor and informal sectors, and the existence of institutions (e.g., MFIs) or associations (e.g., SEWA) to partner with or serve as links between health care providers, insurers, and clients. They do emphasize, however, that despite the desirability of exploiting linkages between parties and agents, it is important to have a separate entity provide the insurance - to protect clients and groups of clients (including MFIs) from bearing financial risk and because of the need for specialized insurance capacity and financial reserves that insurers and re-insurers can provide.

group of physician-providers that carefully screen procedures, encourage lower-cost care, and conduct negotiations with alternative service providers, including hospitals. They generally self-insure patient-members and rely on reinsurance markets for catastrophic health insurance. HMOs have lowered health care cost growth in the US through reductions in quantities of services (“managed care”) and in prices (through market power and negotiations). Most of the savings have come through lower unit prices. The spread of HMOs has had spillover effects in non-managed care markets due to their impact on reducing the demand for non-member physician services. However, as insurance-health service entities, they have enjoyed some success.

²⁹ This in contrast to partner-agent models where many of these problems do not arise because of the division-of-labor between the MFI and insurer.

Studies in Africa show mixed results on the effectiveness of mutual health organizations.³⁰ Better-organized groups tend to succeed,³¹ but the design of the service package is a key determinant of success. For instance, organizations with direct links to health care providers and those that match premium amounts with indemnity payments have been the most successful. Fee structure is an important determinant of success and participants desire fees that reflect relative risks; these can be person-specific (CIDEF, 1998).

The SEWA program faces several design issues including the types of insurance provided, participation requirements, and premium rates. SEWA members initially demanded multiple insurance products to mitigate different risk and flexibility in paying premiums. The provision of a variety of insurance products by SEWA has led to high absolute numbers of participants, but there are problems associated with loss claims and coverage.³² And participation rates have declined over time in many cases. Participants complain about the length and contentiousness of the indemnity payment process, and also are displeased with the limited coverage (e.g. transport costs to health clinics are not paid, but represent a large portion of out-of-pocket health-care costs).

Much of the emphasis on using MFIs as insurance providers comes from a desire to exploit their advantages in dealing with market failures and information asymmetries, and to utilize existing networks. For instance, social networks are used by MFIs as a means of “social control” to avoid abuses and problems associated with moral hazard and adverse selection. Some forms of social control can be easily adapted to assist MI programs. Using local or group knowledge may effectively enhance the selection of insurance participants and minimize adverse selection. However, social exclusion can result from these processes: there is a tradeoff between use of social control for screening “legitimate” cases of moral hazard and use to exclude undesirable groups. Peer pressure may be used, perhaps jointly with group education, to lower moral hazard. Peer

³⁰ Wiesmann and Juetting (2000) review “health mutuals” in Sub-Saharan Africa and highlight the inadequate analysis of their impact in terms of meeting the poor’s demand for risk management.

³¹ “Success” is a relative term in these studies. The indicator of success is usually the sustainability of the MI scheme and not its financial sustainability (without subsidies and external financing), or the extent of coverage to poor households.

³² SEWA offers several types of insurance, but coverage tends to be limited. Health insurance, for example, only covers a person that is hospitalized for more than 24 hours. With about 270,000 members, about 10% participate in the various insurance schemes.

pressure may also facilitate premium collection. However, group enforcement, one of the mainstays of high loan repayment rates among MFIs does not directly transfer to MI. Group enforcement practices may be useful in settling claims (a group council may be used to determine whether, for instance, an illness qualifies for insurance indemnity) but such a process may increase transactions costs to unacceptable levels. The group enforcement in MFIs works because loan default is a discrete, measurable, and infrequent event. For health insurance, in particular, determining and verifying losses is not so straightforward.

Financial sustainability and actuarial soundness of microinsurance

One of the key MI design issues is whether screening and enforcement mechanisms used by MFIs are also appropriate to help ensure the financial sustainability of an MI scheme. In such cases, the bundling of MI within MFI programs may make sense. Evidence shows that MFIs, because of the high transactions costs, frequently need donor subsidies in order to survive. Others are forced to charge “high” interest rates to cover costs and these higher rates ration credit away from the poorest households. In the case of MIs, less attention has been devoted to the tradeoff between using the “micro” component to reduce costs and how that impacts the extension of coverage to poorer households.

Economies of administration may favor the bundling of finance and MI packages. A major unknown factor is the relationship between the size of the operation (in terms of membership) and its financial viability. While there are clearly some fixed costs associated with MI provision, it is not clear how these costs stack up against variable costs. Size may, however, affect ability of groups and associations to lobby for public support. For example, because of the size of its membership, SEWA was able to negotiate with formal insurance providers and obtain government financial support (along with donor financial and technical support).

As more MI schemes are piloted covering different types of risk and new populations, more information is needed on the risk structure, on transactions costs of monitoring and enforcement, and on other management costs. These costs are largely unknown a priori. Often, transactions costs of monitoring and enforcement of MFI contracts are lowered by shifting some of these costs to participants through, for example,

requiring participation in regular meetings or regular visits to program offices. Both actual and opportunity costs are components of the social cost of the MI program and cannot be ignored, especially when trying to justify MI from an economic rather than financial sustainability perspective.

Measuring the “success” of MI programs is complicated and should not be limited to indicators of financial (or institutional) sustainability³³. To date, reviews of MI programs tend to focus on financial sustainability and not on how the MI programs affect household vulnerability. An example is a community-based health MI scheme in Senegal where only hospitalization is covered and premiums are set quite low. There is evidence that members pay one-third less for hospitalization and recover three weeks earlier from illnesses as a result of the insurance scheme (Juetting and Tine, 2000). This type of a client-based measure of success – which can result in lower household vulnerability – should be no less important than measures of the institutional sustainability. From a SRM-perspective client welfare should clearly be given more attention – albeit such information is more costly to collect and analyze.

Sophisticated contractual arrangements often substitute for public and private sector failures

These arrangements include contracts between service providers and clients such as descriptions of coverage, triggers, indemnity provisions and limits, fee structure, dispute resolution, etc. They also include explicit or implicit contracts between providers and financiers, and between government and providers. Contracts between provider and clients are generally accompanied by self-enforcement mechanisms that exploit social control, but they also place new cognitive burdens on participants in terms of understanding the potential benefits and costs of insurance. Holzmann (2001) notes that SRM can only succeed if it improves the “financial literacy” of the vulnerable. Part of this improvement may come through practice – including pilot projects – and it is important to point out that financial literacy (like changing the “insurance culture”) may be a necessary precondition for the success of MI.

³³ In most cases, financial sustainability has been investigated. In other cases more attention has been placed on whether the institutional structure of the MI scheme was sustainable – even if it required significant subsidies and financial infusions. This is because some donors and NGOs seem to be more interested in sustainable MI programs.

Insurance is a different business than credit and savings and requires entirely different skills and institutional capacity. This capacity is frequently lacking in LDCs, both among demanders of insurance products and their potential suppliers. Just as individuals lack “insurance culture,” few MFIs or NGOs in LDCs possess the human resources necessary to undertake insurance operations. In addition, many MFIs are still in the beginning stage of operation and would be hard pressed to extend their operations beyond their core products.

Regulation of MI Industry

A major objective of SRM is to strengthen legal protections for vulnerable households, and such protections need to be in place if MI is to be used to cover a wider range of risks than health and loss of life. Legal protections such as recourse for indemnity judgments, protection against fraud, etc., require strengthening of the legal system and effective regulation of the insurance industry. Insurance is one of the most heavily regulated industries in the developed world. In LDCs, regulatory institutions are non-existent or weak, yet regulation is necessary for efficient functioning of the industry. A successful MI industry requires capacity to regulate and the will to implement and enforce regulations, yet few resources are currently being devoted to this capacity building. There is a clear public role in providing guidelines for MI, and the guidelines should include bonding and financial guarantees, guidelines for investments of premiums, dispute resolution, etc. These guidelines build the financial viability of the industry and the confidence of participants. Such confidence may help overcome the “insurance culture” bias.

An important issue for donors and NGOs and other proponents of MI is how to build regulatory capacity and evaluate tradeoffs between resources destined to build such capacity and resources for the MI programs themselves. Governments need to promote the process of regulatory capacity building. The “micro” in microinsurance does not eliminate the need for regulation.

In the absence of an appropriate regulatory framework for microinsurance, there have been some attempts to use pre-payments (e.g., a form of savings) to mask the insurance product so it is not subject to insurance regulations (Brown, et. al., 2000). There is a need for more attention to advocating financial and insurance reforms and

regulations that help improve access to multiple risk management instruments by vulnerable households.

Microinsurance as part of a holistic risk management strategy

Microinsurance costs should be compared to alternative risk management options at different levels. Investments in certain public goods (sanitation, immunization, etc.) provide alternative forms of risk management (usually by reducing risks or exposure to them), and the cost of each (public good investment versus MI) should be compared. MI should not substitute for other investments in public goods. As MI resources can possibly crowd out other investments in, say, health infrastructure, this crowding out must be considered part of the overall program cost. Microinsurance provides risk mitigation, but investments in risk reduction or formal coping strategies (e.g., safety nets such as public works programs or food/cash transfers) might be preferred. Risk reduction might be achieved by investments in sanitation or disease immunization programs at lower cost than health insurance. For budget-constrained governments it is often less costly to let donors and NGOS finance MI schemes than to invest their own scarce resources in risk reduction.

Options also exist for self-insurance using financial assets (or even physical assets) for self-insurance. Saving using financial assets and other forms self-insurance can have additional risk management benefits, in that, they might be more easily accessible for timely use (as compared to insurance, which might require pre-approvals and filings of claims, etc.) It is possible that financial sector reforms and investments in infrastructure to improve market access may be a more cost-effective means of reducing vulnerability than MI. Financial reforms and investments in infrastructure can have additional benefits for the management of a variety of risks, and they are critical for increasing opportunities for increasing household income – all of which can help reduce household vulnerability.

In many cases, the motivation for provision of health *insurance* is provided by failure of the public sector to provide health *care* at a reasonable cost (Preker, et. al., 2001). Mutual health organizations, for example, provide members with improved “access to good quality health care through their own contributions and by a range of

financing mechanisms mainly involving insurance, but which also may include simple pre-payments, savings and soft loans, third party subscription payments, etc.” (Juetting, 2000) The organizations are systems of voluntary “insurance” based on mutual aid and sharing of risks– through well established social networks- with members usually participating in management and operation. They focus on the “health care package”, with “insurance” being part of the financing mechanism (Juetting, 2000). The insurance contract can not be expected to substitute for access to quality health care. In fact, a recent review of MI programs in Latin America and the Caribbean concludes that most MI programs for health insurance “do not engage in risk management and are primarily designed to increase access to health care for population groups who lack access to health services due to low income or other social reasons (PAHO/ILO, 1999, p.39).”

VII. CONCLUSION

Microinsurance is one instrument in the SRM toolbox, but its effectiveness is less clearly established than that of microfinance and other SRM practices. Information on MI is still widely lacking. SRM practitioners need to understand the potential role of MI in managing risk. Questions not yet addressed in depth include the roles of the public and private sectors in promoting MI, the appropriate role of donors and NGOS, the best institutional and regulatory environment, and, especially, the impact of MI on household behavior, and how MI affects other household risk management actions in reducing vulnerability over time.

A need exists for thorough evaluation of existing MI programs, examination of access to such programs by vulnerable households and groups, and analysis of impacts of MI on participants. Such studies should also consider how MI affects risk management practices at other institutional levels and whether it is the best SRM tool for conditions in a given situation. Potential complementarities between MI and other formal and informal risk management practices – at different levels - must be identified.

Microinsurance is a substitute solution for the vulnerable when markets and the state fail to provide efficient risk management alternatives. Other market failures may exist that are even more constraining to the goal of reducing vulnerability and poverty. The vulnerable face multiple constraints to efficient risk management, and lack opportunities to increase their incomes. Although MI might improve welfare, unless it is

part of a comprehensive risk management strategy, its likely impact on reduction of household vulnerability is likely to be marginal. Furthermore, considerable gaps exist between the demand for, and supply of, insurance to the poor. Appropriate institutions and organizations are often absent along with a lack of capacity to bridge these gaps.

Logic indicates that the vulnerable might demand insurance, but the costs of such services can be high. Demand-side constraints include the lack of a formal “insurance culture,” risk perceptions and attitudes, and the lack of trust in insurance-type arrangement so LDC clients are unsure about paying in advance for a service that they may or may not receive in the future. Some evidence shows that clients do not find it socially acceptable to “bet” on negative events occurring. These problems contrast MI with financial services, where the benefits of credit and savings are more easily perceived. Financial services also challenge fewer social and cultural taboos.

The supply side of the insurance equation is also problematic, but design and delivery issues have been the main focus of microinsurance, to date. Private sector providers of insurance and reinsurance have not met the demand, mainly because of information asymmetries and imperfect markets. Supply side issues include the design of the program and its delivery, the regulatory environment for finance and insurance, and tradeoffs between MI provision and other forms of risk management. More attention needs to be devoted to identify risk management instruments that address more pernicious forms of risk such as covariate and high-loss risks. These risks can probably only be addressed in an insurance framework using insurance (not micro) and reinsurance that broaden the risk and resource pool. For some of these risky events, formal safety nets (including transfers), along with emergency loans and savings might be preferred. In all cases, there are tradeoffs between formal insurance products, savings, and formal safety nets.

Because MI can crowd out informal insurance and coping (formal and informal) strategies, the key question becomes whether, through this crowding out, will MI actually strengthen household risk management capacity. And will, as a result of access to MI, households be better able to deal with other non-insured risks?

Some lessons for design of microinsurance

As the SRM framework stresses the importance of moving toward proactive risk management, a clear and logical opening exists for MI-type products. Microinsurance is a hybrid between informal, unregulated risk coping and formal, regulated products. Ultimately, the design of these products will determine their viability and effectiveness in reducing vulnerability. The limited empirical evidence on MI experience does suggest some important conditions for success:

- Simplicity of the insurance instrument should be assured through contract standardization. Lower premiums will increase participation, but transactions costs discourage it.
- Transactions costs can be lowered through cost-minimizing monitoring systems and efficient incentive schemes. These schemes should make use of and contribute to social capital.
- Affordability and transparency about benefits/payments are necessary. Flexible payment schedules may improve participation.
- The MI provider needs to be located close to client base to obtain information, build confidence, and be receptive to participant needs.
- Microinsurance is often a group enterprise and financial literacy can be facilitated through group involvement in management decisions.

These lessons provide suggestions about the critical role of the government in promoting efficient SRM through MI:

- Provide information about the viability of and alternatives to MI.
- Assisting communities in organizing groups and institutions.
- Provide appropriate regulatory framework for insurance and reinsurance, but allow for voluntary affiliation and bottoms-up design to fit specific conditions.
- Provide political, technical and financial support for micro-insurance.
- Promote “financial literacy” through education.

The main message of this paper is one of cautious optimism. There is some potential for efficient and equitable risk management through microinsurance. But, we still lack sufficient information to determine the magnitude of the promise. It is clear that MI may be **an** acceptable means of managing some forms of risk, but **not all**. We must

also consider the impacts of microinsurance and other risk management options on household vulnerability. The appropriate type of MI for a given place will be highly dependent on local conditions, so that there will be a need for case-by-case assessments.

REFERENCES

- Alwang, J., P.B. Siegel, and S.L. Jorgensen (2001) "Vulnerability." *Spectrum: Sector Launch Issue*. Social Protection Unit, Human Development Network, World Bank: Washington, D.C. see www.worldbank.org/sp
- Alwang, J., P.B. Siegel, and S.L. Jorgensen (2001) "Vulnerability: A View from Different Disciplines." Social Protection Discussion Paper No 0115. World Bank: Washington DC. July. see www.worldbank.org/sp
- Baeza, C. "Community Risk Sharing Arrangements in Latin America" Paper presented at World Bank Workshop on "Risks, Poverty and Insurance: Innovations for the Informal Economy" Workshop Proceedings, September 6, 2000
- Brown, W. (2000) "Prospects and Perils of Microinsurance: Four Questions MFIs Should Ask Before Developing a Microinsurance Product." Paper presented at World Bank Workshop on "Risks, Poverty and Insurance: Innovations for the Informal Economy" Workshop Proceedings, September 6, 2000. A revised and updated version can be found in Brown (2001) "Microinsurance: The Risks, Perils and Opportunities: A Guide Through the Questions to Address Before Developing a Product," *Small Enterprise Development*, 12(1).
- Brown, W. and C. Churchill (1999) Providing Insurance to Low-Income Households. Part I: Primer in Insurance Principles and Products. Calmeadow. see www.mip.org
- Brown, W. and C. Churchill (2000a) Insurance Provision in Low-Income Communities: Part II: Initial Lessons from Micro-Insurance Experiments for the Poor. Calmeadow. see www.mip.org
- Brown, W. and C. Churchill (2000b) Concept Paper on Documenting the Development of Risk Managing Financial Services. Calmeadow. Washington, D.C. see www.mip.org
- Brown, W. and M.J. McCord (2000) Summary of Discussions: USAID MBP Virtual Conference on Microinsurance October 9-27, 2000. USAID: Washington, D.C. see www.mip.org.
- Brown, W., C. Green, and G. Lindquist (2000). A Cautionary Note for Microfinance Institutions and Donors Considering Developing Microinsurance Products. Paper prepared for USAID Microenterprise Best Practices Project. USAID: Washington, D.C. see www.mip.org.
- CIDEF (1998) "Mutual Health Organizations as a Health Care Financing Mechanism Source: The Actual and Potential Contribution of Mutuelles/Mutual Health Organizations (MHOs) as a Health Care Financing Mechanism for Africa. Presented at CIDEF Meeting, Paris, May 27-29, 1998).
- CGAP (2000) "Microfinance and Risk Management: A Client Perspective." FOCUS, Publication No. 17. May. The World Bank: Washington, D.C. see www.cgap.org
- CGAP (2001) "Helping to Build a Microfinance Industry", www.cgap.org.

Dror, D.M. and C. Jacquier (1999) "Micro-insurance: Extending Health Insurance to the Excluded." *International Social Security Review*. 52(1):71-97.

Hauck, K. (1997) "The Social Security Program of the Self-Employed Women's Association Ahmedabad, India." World Health Organization: Geneva. draft

Holzmann, R. (2001) "Risk and Vulnerability: The Forward Looking Role of Social Protection in a Globalizing World." Social Protection Discussion Paper No 0109. World Bank:Washington DC. March. see www.worldbank.org/sp

Holzmann, R, and Jorgensen, S. (1999) "Social Protection as Social Risk Management: Conceptual Underpinnings for the Social Protection Sector Strategy Paper". *Journal of International Development* 11: 1005-1027.

Holzmann, R, and Jorgensen, S. (2000) "Social Risk Management: A New Conceptual Framework for Social Protection, and Beyond". Social Protection Discussion Paper No. 0006. World Bank: Washington, D.C. see www.worldbank.org/sp. Also forthcoming in *International Tax and Public Finance*, 2001

ILO/PAHO (1999) "Synthesis of Case Studies of Micro-Insurance and Other Forms of Extending Social Protection in Health in Latin America and the Caribbean" Paper Presented at the ILO Tripartite Meeting with the Collaboration of PAHO: Extension of Social Protection in Health to Excluded Groups in Latin America and the Caribbean, Mexico City, November 29-December 1, 1999. see <http://oitopsmexico99.org.pe>

ILO (2000) "ILO/Norwegian Refugee Council Workshop: Micro-finance and Micro-insurance. Moscow May 26-28, 1999. International Labor Office: Geneva.

Juetting, J. (1999) "Strengthening Social Security Systems in Rural Areas of Developing Countries." ZEF Discussion Papers on Development Policy, No. 9. Center for Development Research: Bonn. see www.zef.de

Juetting, J. (2000) "Determinants of Viable Insurance Schemes for the Rural Poor in Developing Countries: Lessons from SEWA. Center for Development Research: Bonn. mimeo. see www.zef.de

Juetting J and J. Tine (2000) Micro insurance schemes and health care provision in developing countries: An empirical analysis of the impact of mutual health insurance schemes in rural Senegal", Center for Development Research (ZEF) Bonn, Project report No 5, Germany

Lee, S. (1999) A Compendium of Micro-Insurance Schemes. Social Security Department. International Labor Organization: Geneva. Working Paper (draft)

McCord, M.J. (2000a) "A Synthesis of Case Studies from Health Care Financing Programs in Uganda, Tanzania, India, and Cambodia." Mimeo. A revised and updated version can be found in McCord, M.J (2001) "Health Care Microinsurance: Case Studies from Uganda, Tanzania, India and Cambodia," *Small Enterprise Development*, 12(1):1-14.

McCord, M.J. (2000b) "AIG and NHHP Partnering with FINCA Uganda: An Example of the Partner/Agent Model." Paper presented at World Bank Workshop on "Risks, Poverty and Insurance: Innovations for the Informal Economy" Workshop Proceedings, September 6, 2000.

- McCord, M.J. (2001) "MicroInsurance Centre Policy Statement." MicroSave-Africa Microinsurance Center. see www.microinsurancecentre.org.
- Morduch, J. (1999) "The Microfinance Schism." *World Development*, 28(4):617-628.
- Morduch, J. (1999) "The Microfinance Promise" *Journal of Economic Literature*, 37(4), 1569-1614.
- Morduch, J. and M. Sharma (2001) Safety Nets, Non-Formal Insurance, and Microfinance. Social Protection Unit, Human Development Network. The World Bank: Washington, D.C. Mimeo.
- Narayan, D. (2000) *Voices of the Poor: Can Anyone Hear Us?* The World Bank: Washington, DC.
- Preker, A., M. Jacob, G. Carrin, and D. Dror (2001) "Risk Sharing Arrangements for Health Care at Low-Income Levels: The Role of Communities in Combating Social Exclusion." Paper Presented at the Economic Forum, World Bank, Washington, D.C. May 3-4.
- Rutherford, S. (2000) *The Poor and Their Money*. Department for International Development (DFID). Oxford University Press.
- Sebstad, J. and M. Cohen (1999) Microfinance, Risk Management, and Poverty: Synthesis Report. USAID: Washington, D.C.
- Siegel, P. and J. Alwang (1999). An Asset-based Approach to Social Risk Management: A Conceptual Framework." Social Protection Discussion Paper No. 9926. World Bank, Washington, D.C. see www.worldbank.org/sp
- Skees, J., P. Hazell, and M. Miranda (1999) "New Approaches to Crop Yield Insurance in Developing Countries." EPTD Discussion Paper No. 55. International Food Policy Research Institute (IFPRI): Washington, D.C.
- UNCDF (2000). The Roundtable on Microinsurance Services in the Informal Economy: The Role of Microfinance Institutions. see www.uncdf.org
- Wiesmann D and J Juetting (2000) "The Emerging Movement of Community Based Health Insurance in Sub-Saharan Africa: Experiences and Lessons Learned", *Afrika Spectrum*, Vol 35, Issue 2.
- Williams, C.A., M.L. Smith, P.C. Young. 1995. Risk Management and Insurance. 7th Edition. McGraw-Hill, Inc.: New York
- World Bank (2000a) *World Development Report 2000/2001 – Attacking Poverty*, Oxford University Press: New York.
- World Bank (2000b). Risks, Poverty and Insurance: Innovations for the Informal Economy: Workshop Proceedings, September 6, 2000.
- World Bank (2001): *Social Protection Sector Strategy: From Safety Net to Springboard*. The Human Development Network. Washington, D.C.

Zeller, M., G. Schrieder, J. von Braun, F. Heidhues (1997) *Rural Finance for Food Security for the Poor: Implications for Research and Poverty*. Food Policy Review No. 4. IFPRI: Washington, D.C.

ANNEX 1:

Instruments Available for Rural Households to Manage Risk

	Micro	Meso	Macro
	Household Level	Community Level	Extra-Community Level
Risk Reduction			
	Investment to protect, maintain and enhance assets Adopt new technology Adjust asset portfolio and income-generating activities Permanent migration	Investments in physical and social infrastructure Social ties and network Participation in community institutions and decision-making Rules and regulations Rights and security	Information on risk and risk reduction Rules and regulations Guaranteed rights and security Stable macro-economy, policy regime, and political system Open and free markets Responsive institutions Investments in public goods, physical and social infrastructure
Risk Mitigation			
Asset portfolio Management	Adjust asset portfolio and income-generating activities Hold financial or non-financial assets (e.g., livestock, food stocks, jewelry) for precautionary savings Seasonal migration	Markets for household assets Physical and social infrastructure	Markets for household assets Market information Investments in physical and social infrastructure
Insurance	Formal insurance Informal insurance based on intra-household social capital claims Microinsurance that links informal-formal mechanisms Inter-linked contracts	Informal insurance based on community social capital claims Formal community insurance pooling associations	Formal insurance, private and public sector, and international organizations (e.g., crop insurance, health insurance) Disaster aid funds
Finance	Formal and informal credit Inter-linked contracts	Community credit unions and savings clubs, and “banks” for other asset stocks	Financial systems, national and international Inter-community credit associations and “banks” for other stocks
Risk Coping			
	Draw down assets (e.g., skip meals, mine soil, not pay school fees) Use underemployed assets (e.g., off-farm employment, child labor) Sell assets Encroach on assets of others Illegal activities Formal and informal credit Depend on charity	Draw down community assets (e.g., reduce maintenance, harvest or mine natural resources) Depend on charity or aid from outside community	Targeted safety nets (transfers, public works) Social investment projects (e.g., social funds) Depend on charity or aid from national or international organizations International food aid Donor assistance

Source: Siegel and Alwang (1999).

**ANNEX 2:
Vulnerability - An Example of The “Risk Chain”**

Consider a simplified example of the vulnerability “risk chain” and options for risk management at different levels. This example, although simplified, remains quite complicated. The risk chain represents a continuum, with multiple possible actions by different institutional actors, with consequences for risk-response-outcome sets faced by other levels. Many actions have longer-term implications for asset accumulation and depletion and subsequent risk-response-outcomes. The example is of health risks related to mosquito-borne malaria.

Risk: malaria-carrying mosquitoes.

Response: actions that can be taken ex ante and ex post. Options for responses to mosquito-borne malaria will depend on numerous factors, notably the household and community asset base.

What can be done ex ante to reduce the risk of getting malaria?

1. Eliminate mosquitoes that are carriers of malaria or destroy their breeding grounds.

Household level: apply insecticides, remove standing water, and improve water and sanitation treatment. These risk reduction measures have limited effectiveness, partly due to externalities associated with individual actions.

Community level: like household level, but group action is potentially more effective due to internalization of externalities.

Regional and national level: provide information about the risk and means of addressing the problem. Organize and finance an information or spraying campaign.

International level: like regional and national level, provide knowledge and funding. Note also that international policies such as banning insecticides may affect the ability at lower levels to reduce the risk.

2. Reduce exposure (or susceptibility) to mosquito-borne malaria. An individual’s exposure depends on factors such as the broadly defined asset base. Existing health and nutritional status, physical assets such as housing, infrastructure and household location all determine exposure to risk.

Household level: take malaria pills, use netting, coils, etc. Alternatively, household can migrate to upland or drier areas to reduce exposure.

Community level: build infrastructure for pill distribution; provide information.

Regional and national level: info campaign to encourage use of malaria pills, mosquito netting, etc. Subsidize household and community actions.

International level: like regional and national level.

What can be done ex ante to mitigate the welfare losses of getting malaria?

Take actions to mitigate the negative impacts associated with getting malaria. Risk mitigation can provide compensation for welfare losses (e.g., income losses) associated with getting malaria.

Household level: obtain health insurance that includes malaria treatment, obtain insurance against employment loss due to malaria, hold savings to cover income losses, cultivate social capital for assistance, teach children to help in household chores and employment in case breadwinner gets malaria or household members need to provide care.

Community level: social assistance based on “social contract” to help malaria-afflicted household; build and support health clinic.

Regional and national level: provide legal and institutional framework to support household mitigation actions (e.g., finance and insurance institutions).

International level: provide international finance and insurance services to provide compensation for malaria related income losses.

What can be done ex post to cope with the welfare losses after getting malaria?

Take actions to cope with the negative impacts associated with actually getting malaria. Risk coping can provide compensation for welfare losses (e.g., income losses) associated with getting malaria

Household level: purchase anti-malaria medicine and treatments. Home rest and assistance from household members; have other household members work extra (remove children from school); after recovery from illness, increase work effort to replenish lost income; possible asset sales to maintain consumption levels.

Community level: ad hoc social assistance for health related costs and income loss.

Regional and national level: social assistance for health-related costs and income loss.

International level: social assistance for health-related costs and income loss.

Outcome: expected household income loss relative to a threshold over a specified period. Shorter term: What is income loss resulting from illness, out-of-pocket expenses. Longer term: What are the dynamics? How will response impact household assets and risk-exposure-response-outcome in future.

**ANNEX 3:
An Example of The Partner-Agent Model³⁴**

Motivation of Different Parties

MFI:

- reduce vulnerability from health and accidental death risks (that reduce income and/or increase expenditures) faced by clients to improve their ability to repay loans
- provide an additional benefit to clients at no extra risk to the MFI, with a minimal administrative burden since MFI only collects insurance premiums (all other insurance functions, eg contract, indemnity payments done by insurer)

Insurer

- efficient (i.e., low cost) access to an untapped market
- potential profits from new client base

Hospital

- guaranteed payment for services provided
- new paying clients

Clients

- reduce vulnerability from health and accidental death risks (that reduce income and/or increase expenditures) to improve their ability to repay loans
- better family health
- assurance that family does not bear responsibility for unpaid loans in case of death

NOTES:

1. The insurer is responsible for insurance contracts that specify risks covered, premiums, benefits, claims and indemnity payments. And bears risks.
2. The MFI acts only as an “agent” for the insurer, linking its client to the insurer. It does not assume any risks.
3. Hospital and insurer work together in recording claims and processing of indemnity payments.

³⁴ Adopted from McCord (2000b).

