Providing Insurance to Low-Income Households

Part I: A Primer on Insurance Principles and Products

Widening the circle, moving ahead

MICROENTERPRISE BEST PRACTICES
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by

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EXECUTIVE SUMMARY

The increasing maturation and sophistication of the microfinance industry is producing some exciting trends. For various reasons, not the least of which is growing competition, microfinance institutions (MFIs) are learning more about the needs and demands of their target market. One of the things MFIs are hearing is that loans for microentrepreneurs only meet a small part of the demand for financial services in low-income communities. A microloan may help a household to increase its income, and may even help build some assets, but it does not reduce the household's vulnerability or exposure to risks. Easily available savings services can go a long way toward addressing this need, as households build a nest egg from which they can draw down in case of emergency or to smooth cash flow imbalances.

But what happens when they are exposed to risks which cause losses that are beyond their means? Insurance is a promising response to this customer need. Using insurance products to pool the risks faced by low-income households, MFIs can reduce their clients' exposure to risk-induced losses and, potentially, improve these households' ability to increase their incomes.

Another microfinance trend is the drive for sustainability or profitability, again perhaps in the face of increasing competition, which is leading MFIs to diversify their line of financial products. Insurance as a new financial product has the potential to improve profitability by reducing loan losses and replacing clients' need to draw down savings for emergencies. If the institution offers insurance independently, it can also benefit from an additional source of capital for lending; if it provides insurance in partnership with a traditional insurer, it can generate fee-based income.

Thus in theory, the provision of insurance might create a win-win situation: clients experience a reduction in vulnerability to risk and MFIs benefit from an improved bottom line. But, there are many reasons why traditional insurers have largely ignored the low-income market. As with microcredit, there are obstacles to serving the low-income market that require innovations in product design, delivery mechanisms, and even marketing.

This document is written primarily for managers and directors of microfinance institutions that either offer insurance or plan to develop an insurance product for low-income households. While it is premature to prepare a "how to" document, this paper provides an introduction to the provision of insurance to the poor by adapting commonly accepted insurance principles to the unique characteristics of this market. The information in this document is derived primarily from available literature as well as detailed discussions with industry experts. The main contributions of this document are as follows:

- A framework for thinking about providing insurance to low-income households, including a summary of risks to which they are exposed and common risk-coping mechanisms.
- An initial definition of the appropriate role for insurance in low-income communities relative to other financial services and relative to the risks prevalent in these communities.
- A clear description of the basic principles to be followed by any insurance provider.
- A breakdown of the variety of potential insurance products that can be offered to low-income households, including an assessment of the complexity and challenges faced by providers of each type of insurance.
- A detailed summary of technical information to consider when developing and implementing an insurance product.
- A glossary of common insurance terms and recommended reading.

This paper introduces the broad range of topics that need to be considered in offering insurance to low-income households. In essence, this paper provides a good foundation and starting point for its target audience. The following stages of this project will build on this foundation to develop a more in-depth understanding of this topic.

The next step, Part II, uses survey results on insurance products already developed by MFIs to illustrate the obstacles to providing insurance to low-income households identified in this paper. In addition, Part II will detail some of the innovations that micro-insurance providers have developed to overcome these challenges.

This document does not go so far as to answer whether the provision of insurance is a win-win situation for both microfinance institutions and their clients. That answer will have to come from the field, in Part II, from micro-insurance providers themselves.

In the meantime, three important points need to be emphasized up-front. First, there is a need to clarify terminology. Insurance involves *pooling risk* over a large number of similar units, such as households, persons or businesses. Some very important risk management strategies are occasionally called insurance, but in fact they are not. A targeted savings product for marriage or a dowry, for example, is a savings product, not an insurance product.

Second, from the client's perspective, for many risks, insurance is not the ideal solution. If clients can save enough money to protect themselves from economic shocks, then this is usually the most cost-effective approach. Insurance is most appropriate for uncertain and expensive losses. Insurance involves exchanging the uncertain prospect of large losses for the certainty of small, regular premium payments. In doing so, policyholders pay for the losses incurred by others (through pooling risk) and for the costs and risks assumed by the insurer.

The third point is that insurance products range from fairly straightforward to very complex. Prospective micro-insurers should consider enlisting the input and even participation of insurance experts, especially if they intend to offer something more complicated than insurance for the outstanding balance of a loan.

INTRODUCTION

Poor households throughout the world face twin disadvantages. The first is difficulty in generating regular income while the second is vulnerability to economic, political and physical downturns. Harder still, the two disadvantages reinforce each other: poverty is a source of vulnerability and repeated exposure to downturns reinforces poverty. —Matin et al (1999)

Microfinance has traditionally assisted the self-employed poor by providing financial services, primarily credit, to help their businesses generate increased income. Micro-loans have supported millions of poor households in pursuing income-generation opportunities that would otherwise have been out of their reach. However, there is another, perhaps more important, means of assisting low-income households besides encouraging income generation.

A growing number of microfinance practitioners and academics are beginning to recognize that, to achieve sustainable poverty reduction, poor households require access to financial services that allow them to manage risks.[1] As the quotation above suggests, vulnerability to downturns or risks is a significant contributor to poverty. The importance of vulnerability reduction to low-income households[2] is illustrated by their willingness to give up a substantial portion of their income in exchange for reduced exposure to risk. The protection afforded by risk management techniques has the dual benefit of helping to abate the exacerbation of poverty, while providing the household with the security necessary to take the risks required to increase their income.

This document provides an introduction to the role of financial services in reducing the vulnerability of low-income households. Vulnerability can be thought of as the inability to deal with the losses or costs resulting from the occurrence of a risky event. Naturally, a household's response to this vulnerability is to adopt strategies to reduce the impact of these losses. These responses can include diversifying their income sources or maintaining stocks of assets; joining savings clubs; and accessing formal financial services. This study briefly describes these strategies and identifies their relative effectiveness against the risks faced by low-income households. The bulk of this study then focuses on a subset of these risk management strategies, those that provide protection by pooling risk across many households—insurance products.

Risk pooling allows large groups of households to share the losses resulting from the occurrence of a risky event. Thus, when households suffer a loss, such as the death of the primary income earner, insurance allows them to receive more complete compensation for their loss than they could have provided on their own. Persons affected by a negative

[1] Zeller (1999), Morduch (1998), Rutherford (1999) and Matin *et al* (1999) all discuss the importance of designing financial services to serve the risk management needs of the poor.

[2] The term household is used throughout this report as including both households and individuals.

event benefit from the contributions of the many others that are not affected. Insurance reduces vulnerability as *households replace the uncertain prospect of large losses with the certainty of making small, regular premium payments.* This risk pooling mechanism is quite distinct from targeted savings products, which have, at times, been marketed as insurance.

This report provides a foundation from which to consider how insurance can be developed for and delivered to low-income communities. The focus of this study is on insurance products offered by private institutions that protect individuals or households, rather than society as a whole. Insurance products typically offered by the public sector, such as unemployment insurance or deposit protection, while valuable, are not within the scope of this study.

There is relatively little experience and literature in the microfinance field on the provision of insurance to low-income communities. Looking more broadly, the basic principles of insurance have been developed and practiced for centuries. In addition, the practice of designing insurance products and delivery systems for mid to low-income households traces its roots back more than 100 years in many developed countries and to the financial services offered by credit unions around the globe. This document uses information from these sources, general literature on insurance, and interviews with insurance experts in order to:

- Understand the risks faced by low-income households.
- Provide a framework for understanding the role of insurance products, relative to other financial services and non-financial risk-management strategies, in meeting the risk- management needs of low-income households.
- Summarize experiences and knowledge from established insurance providers relevant to the provision of insurance in low-income communities.

This document is organized into five chapters. Chapter One outlines the risks faced by low-income households in developing countries. Chapter Two summarizes the techniques that low-income households use to manage these risks, including the use of informal and formal financial services. By diagramming the risks and common risk management techniques, this chapter highlights the possible market for innovative insurance products. Chapter Three introduces the concept of insurance from the perspective of the insurer. It outlines seven universal principles in providing insurance, further refines the risks that can be appropriately managed by insurance, and describes the types of insurance from the provider's perspective. Chapter Four is the main focus of this document. It describes the various elements of insurance provision, relying on the experiences of established providers in low-income markets where possible. Chapter Five outlines additional questions that need to be answered to overcome the barriers to providing insurance to low-income households.

This is Part I of a two-part research project on the topic of insurance for low-income communities. The second part consists of early lessons and experiences from

microfinance institutions (MFIs) that already offer insurance products. Part II uses the framework presented in this document to analyze the services of these institutions. It also identifies opportunities, innovations, obstacles and challenges in applying established insurance principles and practices in the context of low-income communities.

CHAPTER ONE
RISKS FACED BY LOW-INCOME HOUSEHOLDS

Low-income households identify some of the most common causes of declines in their well being as:[3]

- Illness or injury
- Death of a close family member
- Natural disasters
- Theft

Exposure to these risks affects households in two ways. First, households affected by a risky event incur a potentially substantial monetary loss, such as the cost of rebuilding a market stall destroyed in a fire. Second, households exposed to a risk suffer on-going uncertainty about whether and when a loss might occur. For example, if fires occur frequently in her market, a vendor may be unwilling to improve or expand her stall for fear of losing the stall to fire before benefiting from the modifications.

The financial cost to a household that loses a valuable asset or an income earner is reasonably clear and substantial. The impact of on-going uncertainty is potentially more damaging. Several empirical studies have demonstrated that households exposed to greater risk-uncertainty are less likely to take advantage of growth opportunities, such as investing in new technologies or additional working capital, that would likely lead to increased wealth and reduced poverty.[4] As a result, households exposed to a great deal of uncertainty, which tend to be the poorer households, are often unable or unwilling to use the traditional growth-focused products provided by most microfinance institutions.[5]

The first step in developing ways to assist poor households to cope with this uncertainty is to understand the range of risks that they face. This helps differentiate when certain responses to these risks are more or less appropriate. Building on previous efforts to systematize the risks facing low-income communities,[6] the following framework identifies and classifies risks based on the household's perspective on two variables: (1) the **degree of uncertainty** caused by the risk and (2) the relative **size of the loss**. By positioning the risks faced by low-income households along these two dimensions, it is possible to assess how well various risk management options protect low-income households against each type of risk.

The *degree of uncertainty* whether a risky event will occur affects a household's ability to plan an appropriate risk management response. An event such as a daughter's wedding

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[3] Narayan *et al* (1999), based on results from recently conducted interviews with more than 20,000 poor individuals in 23 countries as a contribution to the forthcoming World Bank World Development Report 2000/1.

[4] Mosely & Krishnamurthy (1995); Eswaran & Kotwal (1985).

[5] Rutherford (1999).

[6] See Morduch (1995); Zeller (1999).

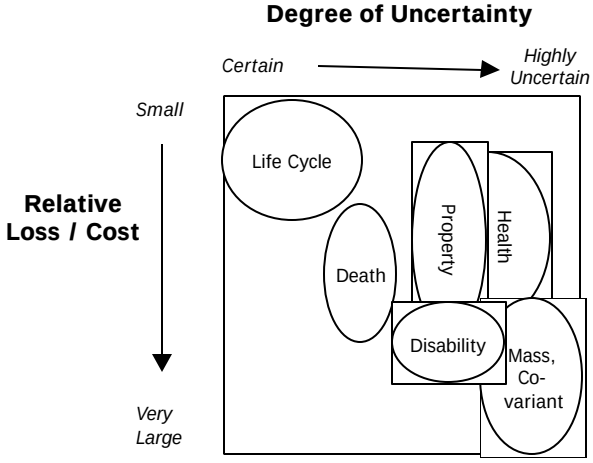
(requiring a dowry) creates less uncertainty, because the approximate timing is known years in advance and the exact timing is known months in advance, than a cyclone or flood. The uncertainty of a risk can be thought of in terms of three elements:

- ***If*** the risky event will occur: A household experiences greater uncertainty regarding whether a valuable piece of property will be stolen than whether a family member will die.
- ***When*** the risky event will occur: A household experiences greater uncertainty regarding when a family member will die than when they will marry.
- ***How often*** the risky event might occur: A household experiences greater uncertainty regarding how often they might need medical attention (potentially many times) than how often they will die (only once).

The *relative size of loss or cost* caused by a risky event affects a household's ability to maintain its standard of living. The loss or cost can be one-time (e.g., a dowry payment) or ongoing (e.g., loss future income due to a long-term disability). To apply this framework to low-income households, it is important to compare the loss to the household's income or assets. The larger the loss relative to a household's existing assets and future potential income, the fewer are their alternatives available to recover from the loss, and the more severely the loss will affect the household.

Using these characteristics, six different types of risks faced by these communities are classified in Diagram 1.[7] It is important to note that the diagram is for illustrative purposes. The exact positioning of each risk will vary across households and regions. On average, however, the position of each bubble to the others should remain reasonably consistent. The following sections describe each of the six risks from the diagram.

Diagram 1: Map of Key Risks Facing Low-Income Communities



Developed based on Weihe (1990); Hazell (1992), Rutherford (1999)

[7] Note that business risks (variations in input/output prices, limitation in availability of manpower, etc.) are not included within this framework.

LIFE CYCLE NEEDS

Low-income households are most commonly exposed to expenditure requirements for life cycle needs, such as paying for a child's education, re-stocking household supplies, paying a sufficient dowry, or saving for retirement. These needs arise when flows of income do not coincide with required expenditures.[8] While households are generally aware whether and when these events will occur, the high likelihood and frequency of their occurrence create an on-going uncertainty as to whether the household will have sufficient income or assets to cover the cost associated with these events. While individually these events have the least severe impact, their frequency makes managing them a pressing need for many low-income households.

DEATH RISKS

Death risks include the costs that result from the death of a family member. The degree of uncertainty regarding death is greater than that caused by life cycle events, but less than that caused by most other risks faced by low-income households. This is because each family member can be sure that they will, at some point, die. However they experience uncertainty regarding when it may happen. The loss a household experiences when a death occurs (aside from the emotional loss) includes both a one-time component (e.g., cost of proper burial, cost of settling the deceased's accounts, etc.) and, potentially, an ongoing component to replace income that the deceased formerly provided to the family (see Box 1).

Box 1: The Case of Leoncio

Leoncio, a 46 year old taxi driver, lived with his wife, 8 children and 5 relatives in Bolivia. When he died unexpectedly, his family not only lost their father, they also became responsible for paying off the loan he had borrowed to repair his taxi. In addition, Leoncio's wife needed to find a way to replace his income, as the $100 she earned monthly from her stand in the local market wasn't enough to pay for the family's living expenses.

Adapted from Weihe et al (1997)

PROPERTY RISKS

Property risks include events leading to theft, damage, loss, or destruction of a household asset. Crop losses, livestock illness or death, fire to a family home, and damage to a sewing machine are all examples of the types of assets that low-income households may need to protect. Given the range in value of these assets and the situation specific nature of property risks (i.e., the likelihood of theft varies substantially by community), the impact of property risks will vary by family and locality. In general, property risks are likely to cause households greater uncertainty than death risks or lifecycle needs because they cannot be sure whether, when, or how often a fire or theft might occur (hence their positioning to the right of these risks in Diagram 1). The relative value of a household's loss due to a property risk will depend on the asset at risk; for this reason property risks are displayed in a long, narrow bubble.

[8] Matin *et al*, 1999.

HEALTH RISKS

Besides life cycle needs, health risks—accidents, illnesses, and injuries that require households to pay for medical treatment—are among the most common concerns of low-income households. The cost to a household of each accident, illness or injury is generally one-time and, like property risks, can vary from relatively small, such as purchasing aspirin, to relatively large, such as major surgeries.[9] The frequency with which health risks can occur, and the household's limited ability to predict whether or when they will be affected, suggest that health risks generate a greater degree of uncertainty than other risks (with the exception of mass, covariant risks for the reasons discussed below).

DISABILITY RISKS

The causes of disability risks are essentially the same as those for health risks (accidents, illnesses, and injuries), however there is a greater relative cost to a household of having a family member disabled than injured or sick. A disabled family member may require on-going treatment expenses besides the cost of the initial medical attention. Households may also incur additional costs in replacing lost income if the family member is no longer able to work. This is especially problematic if the disabled family member is young. Instead of becoming a future source of income for the family, her disability requires an on-going expense. Consequently, when these risks occur, low-income households have greater difficulty overcoming disability risks than health risks.

MASS, COVARIANT RISKS

Mass, covariant risks are the threat that an event, such as epidemics, natural disasters, and war, could cause substantial losses for a large portion of a population at the same time. These risks could fit into the categories described above based on the impact they have on households.[10] Death, property damage, illness, and disability are all associated with mass, covariant risks. Mass, covariant risks are considered separately because: (1) they tend to be difficult or impossible to predict; (2) they affect many people at the same time, thus hampering the ability of risk-pooling mechanisms to protect against these risks; and (3) the cost associated with mass, covariant risks tends to be significantly greater than that resulting from other risks. The cost of a mass, co-variant event tends to be greater for two reasons:

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[9] Events leading to long-term disabilities and epidemic diseases such as HIV or malaria are exceptions. Epidemics are considered as mass, covariant risks. Disabilities are considered as a separate category of risk.

[10] Risks are said to be covariant when their pattern of occurrence is the same for a substantial portion of the population. For example, the risk of flood damage in many villages in Bangladesh is covariant because a substantial portion of households are significantly affected when a flood occurs. Risk whose pattern of occurrence varies for each household affected are called idiosyncratic.

- Households are forced to deal with multiple losses at the same time (e.g., severe flooding leading to death of a family member, destruction of the family's home and several injuries to remaining family members); and

- Households' traditional risk coping strategies, such as intra-family gift giving, reciprocal exchange and non-financial savings (discussed in the next chapter), tend to be weakened or destroyed because neighbors and local family members are suffering from similar losses at the same time.

The threat of a natural disaster or epidemic, which may result in multiple losses at once, causes a greater degree of uncertainty than other risks.

CONCLUSION

Understanding these risks in the context of the framework (the bubble diagram) clarifies the impact they have on households. A household can cope more easily with an individual life-cycle need than a mass-covariant risk because they can plan for the event and because it generally involves a smaller cost. It is important to reiterate that the exact positioning of the risks in the diagram varies by household. A household in a tightly knit rural community may, for example, experience significantly greater uncertainty from health risks than from concerns regarding stolen property (property risks). The next chapter builds on this framework by identifying how effectively the risk responses available to low-income households can protect them against the risks described above.

CHAPTER TWO
POTENTIAL RISK MANAGEMENT STRATEGIES

The previous chapter described the nature of the risks faced by low-income households. This chapter answers the following questions:

- How do low-income households protect themselves from these risks?
- When are these strategies more or less effective?
- Against which risks and in what situations are households likely to receive more effective protection from insurance products?

A significant volume of research has focused on answering the first two questions—identifying, classifying and rating the effectiveness of the risk responses available to low-income households.[11] To answer the third question, this chapter uses the bubble diagram to compare common risk management approaches with the household's risk management needs developed in the previous chapter. The areas in the diagram that are not well covered by common risk management strategies represent the potential for insurance from the perspective of the consumer. The following chapter will look at this same issue from the perspective of the insurance provider.

As summarized in Table 1, households manage risk in two ways: (1) by adopting means to **reduce risk** and (2) implementing strategies to **cope with risk**. Risk reducing strategies are developed prior to a risky event and reduce the household's exposure to risks. Risk coping strategies, both formal and informal, reduce the impact of the loss experienced by a household after a risk occurs.[12]

Table 1: Risk Reducing and Coping Strategies

Methods of Risk Management	Characteristics
Risk Reducing Strategies	▪ Diversify income sources
Risk Coping Strategies: Individual, Informal	▪ Accumulate assets ▪ Reciprocal lending ▪ Gifts ▪ Reserved credit capacity
Risk Coping Strategies: Group, Informal	▪ Savings clubs
Risk Coping Strategies: Formal	▪ Credit and savings, such as emergency loans ▪ Insurance

[11] Readers interested in greater detail should refer to Morduch (1998), Zeller (1999), and Alderman & Paxson (1994) for good summaries of the work in this area.
[12] Walker and Jodha (1986).

RISK REDUCING STRATEGIES

Planting multiple crops, working several jobs, and sending family members to work abroad are all actions households may take to reduce their risk exposure. This type of response can be quite effective in protecting households against many risks. For example, a poor farmer might diversify her income sources by hawking goods in the market in addition to tending her crops. As a result, her vulnerability to losses due to crop failure is reduced by the amount she earns from hawking. However, these approaches can be costly for households in both financial and non-financial terms.[13] "In rural India, for example, households may sacrifice as much as 25 percent of average income to reduce exposure to [risks]."[14]

Risk reducing strategies are not an alternative that can be developed or supported by a financial institution. However, the cost of the risk reducing strategies that households are willing to endure is an indication of the importance of risk management among households' basic needs.

RISK COPING STRATEGIES—INFORMAL

Informal risk coping strategies incorporate the range of activities and organizations that tend to develop between individuals or within local communities on a personalized basis.[15] Two different types of informal strategies—individual and group-based strategies—are addressed below to highlight their varying ability to offer protection to low-income households.

Individual Risk Coping Strategies

Individual risk-coping strategies are ways a household can access sufficient funds to recover from a loss caused by a risky event, such as the cost of rebuilding a market stand destroyed by bulldozers. The following four strategies are employed by low-income households to allow them to cope with an event should it occur:[16]

- *Accumulate Assets:* Households protect themselves from risk-induced losses by maintaining a stock of physical assets (e.g., a cow, goat or other animal, gold, etc.) that can be sold or pawned.[17]

[13] Hazell (1992); Zeller (1999)
[14] Matin *et al* (1999)
[15] *ibid*
[16] Adapted from Zeller (1999), Morduch (1998), and Matin *et al* (1999).
[17] See Rosenzweig & Wolpin (1983) for a discussion of livestock-based responses; Morduch (1998) for a summary and listing of other research on asset-based approaches.

- *Reciprocal Lending:* A common household response to risk is to initiate reciprocal lending. In good times, when a household has additional income, interest-free loans are made to other households with the implicit obligation that today's borrower will provide a similar loan in the future when today's lender is in need. In this way, households develop social capital as risk protection. Note that the lending can be non-monetary in nature (see Box 2). Production and labor can also be traded for future protection.[18]

  When reciprocal lending is ingrained into tribal or cultural traditions, it can become a disincentive for households to grow their incomes. In some African communities, members are culturally bound to use surpluses to provide for those who express a significant need. In theory, the surpluses provided and the needs expressed will be temporary and, over time, each member will benefit equally from the system. In practice, certain individuals in many communities retain the provider role almost permanently, unless or until their income is reduced by the sheer weight of their obligations.[19]

Box 2: Reciprocal Lending—Corn Beer Producers of Bolivia

The *chicha* (corn beer) producers of the Cochabamba region of Bolivia customarily give free *chicha* to their friends and neighbors during the annual All Saints Festival. While the festival would be an opportune time to sell their *chicha* for a profit, they continue to follow the custom, even when cash flows are very limited. Their compensation for their actions comes in the form of social capital. Just as the *chicha* producers follow tradition and contribute some of their production for the community good, custom dictates that they can expect other community members to respond in kind should they ever fall upon hard times. Each member of the community contributes what they can, when they can and can, by custom, expect their neighbors to reciprocate in kind.

Adapted from Lee (1997)

- *Gifts:* Similar to reciprocal lending, households also rely on gifts from relatives or other community members as a means of means of accumulating social capital to cope with risk. The only difference between a gift and reciprocal lending is that a gift does not oblige the receiver to repay the favor in the future.

- *Reserved Credit Capacity:* For low-income households with access to some form of credit—through suppliers, moneylenders, etc.—reserving some of this credit for use in the event of a loss can be a helpful risk coping response. By only using a portion of the credit available from, for example, a seed supplier, a rural farmer may be able to obtain a loan from the same supplier to replace stolen or damaged tools.[20]

Use of these individual coping strategies is widespread in low-income communities. Despite their popularity, they provide only a limited amount of protection. Rosenzweig (1988) calculated that reciprocal lending and gifts were only able to protect against 2 to 3

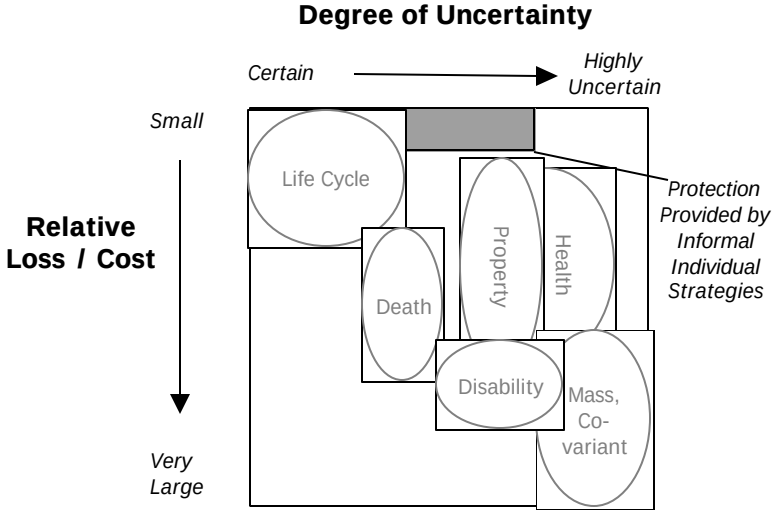
[18] For an example of reciprocal production see Lee (1997); and for labor see Platteau & Abraham (1987). Zeller (1999) and Morduch (1998) provide good summaries of the research in this area. Udry (1990), Cox and Jimenez (1992), and Jacoby and Skoufias (1998) go into further detail.

[19] Interview with Michael McCord, FINCA Africa.

[20] Diagne, Zeller and Sharma (1998) provide evidence of this behavior in Malawi.

percent of the losses faced by the households in rural India. In addition, these strategies tend to be less accessible to poorer households. That is, the poorest households tend to have smaller social networks to draw on for reciprocal lending or gifts, they tend not to have assets that can be sold or pawned, and cannot access or afford credit as a coping strategy. Diagram 2 depicts this limited protection offered by individual informal coping strategies.

Diagram 2: Protection Provided by Informal Individual Coping Strategies



The amount of protection offered by any risk-coping strategy varies by household and by situation. Thus, it is not accurate to say that informal, individual coping strategies can never provide protection against some risks. Nor is it accurate to say that these strategies will always provide protection, as is the case with the poorest households, which often receive little or no protection from informal risk-coping strategies. The shaded areas in Diagram 2, and in the evolving bubble diagram that follows, represent approximations of when each risk management strategy will likely be effective. The actual protection provided by each strategy and the lines separating one from the other will vary. The divisions shown in the diagram should be thought of as gray areas where gradually one risk management strategy becomes more effective than another.

Group-Based, Risk-Coping Strategies

By forging relationships with other community members, low-income households can achieve a greater reduction in vulnerability than through the individual strategies discussed above. Most of the group-based, risk-coping strategies employed by households take the form of savings clubs. These are the ROSCAs, ASCAs,[21] marriage

[21] Rotating Savings and Credit Associations and Accumulating Savings and Credit Associations.

funds, burial funds, etc., which are well documented in the literature.[22] The basic features of these funds are as follows:

- A defined group makes clear rules regarding the value and frequency of contributions that members make.

- The simplest savings clubs merely accumulate the contributions and re-distribute them to their members at the end of a defined period (as in a Christmas club).

- ROSCAs distribute the whole of the incoming contributions to one member at each round of contributions, using rules based on a pre-determined sequence of distributions, a lottery or an auction.

- ASCAs (and their variants) use the pooled fund as a source of loans, so that members vary in the extent and the frequency with which they access the pooled resource. Borrowers usually pay interest on the loans and all members enjoy a share of this income.[23]

These savings clubs are often primarily focused on meeting the investment needs of low-income households. However, by pooling the savings of many households, these funds can also offer a measure of risk protection. For example, a household may be unable to accumulate sufficient funds to pay for a child's schooling and is thus vulnerable to a life cycle event. By accumulating small weekly savings in a savings club for several months prior to the beginning of the school year, the household can address this need.

For events with a relatively low degree of uncertainty and an associated cost within the household's ability to save, savings clubs are an effective risk coping strategy. Clubs using an auction to determine who receives the pay out have the most capability as risk-coping strategies because they allow households to match the timing of the receipt of the fund with a need for the funds. By adjusting the features of basic savings clubs, low-income households have created a variety of other group-based funds with a greater ability to cope with the vulnerability created by life-cycle events (see Box 3).

[22] See Rutherford (1996 & 1999) for a more thorough discussion of these groups.
[23] See Rutherford (1999) for further details.

Box 3: Improved Informal Risk-Coping: Marriage/Burial Cost Funds

Both marriage funds and burial funds adapt the basic features of savings clubs to provide greater risk-coping capacity.

Marriage Funds: In India and Bangladesh, households with young daughters face the challenge of accumulating sufficient funds to pay a dowry when the child marries. Adaptations to the basic savings club concept have been made to reduce households' exposure to the risk of being unable to afford a sufficient dowry at the time of marriage. By extending the life of the fund over many years, and making pay outs contingent on an uncertain event (marriage), marriage funds offer households protection against larger risk-associated losses and greater uncertainty than a simple savings club can provide.

Burial Funds: Burial funds run by religious or other social organizations in India gather the savings of 300 or more households offering a fixed pay out to the family of any fund member who dies during the existence of the fund. By greatly increasing the size of a typical savings club and changing from regular pay outs to pay outs contingent on an uncertain event, these burial funds incorporate a risk pooling mechanism to offer protection above and beyond what a simple savings club can provide.

Adapted from Rutherford (1999)

A limited number of examples exist of adapted savings clubs designed to cope with greater uncertainty and larger losses. Box 4 describes a group-based, risk-coping mechanism designed to address a property risk in Bangladesh.

Funds that give households the ability to borrow on-demand from the accumulated capital significantly expand the protection of informal group risk-coping strategies. Despite these innovative efforts, poor households remain vulnerable to most of the risks described earlier. A number of research studies have estimated that low-income households have the means to protect themselves against 10 to 40 percent of the risk-induced losses that they face.[24] These same studies also show that informal risk coping mechanisms tend to be less accessible by poorer households since it is harder for poorer households to acquire assets, build social capital, and maintain regular savings commitments required by group-based strategies.[25]

Box 4: Informal Fire Insurance in Dhaka

"Dhaka's slums are highly combustible. The buildings are made with woven bamboo walls, they sit cheek to jowl, and cooking is done inside, over open fires. It needs only a moment of inattention, or a naughty child, to set them ablaze. Once a fire has set in, it is likely to wipe out dozens of homes and shops at a time. Since there is no public compensation for residents and shopkeepers who lose out in such fires, some slums have instituted a form of self-help insurance…residents agree to save a set sum each week (or a multiple thereof) which is collected by a cashier and banked. In the event of a fire, the fund is withdrawn and distributed to members in proportion to their contribution."

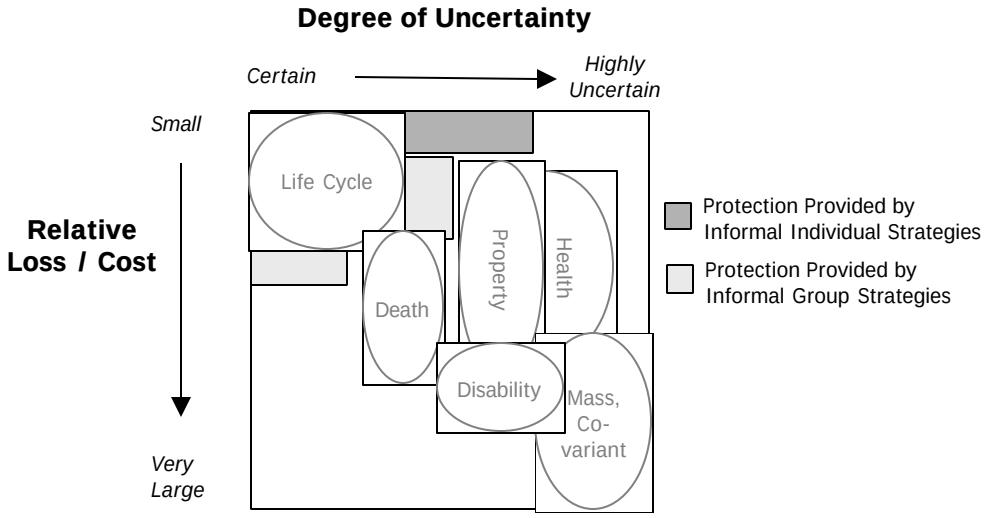
Rutherford (1999), p. 26

[24] Morduch (1998) provides an excellent summary of existing empirical research on the degree of protection available to low-income households from informal responses.

[25] See Binswanger & Rosenzweig (1993) and Morduch (1998).

Diagram 3 shows the increased protection offered by group-based informal risk-coping strategies. It also demonstrates the inability of most informal coping strategies to effectively protect households from risks besides those in the life cycle category.

Diagram 3: Protection Provided by Informal Group Coping Strategies



RISK COPING STRATEGIES—FORMAL FINANCIAL SERVICES

Formal and semi-formal financial services—credit, savings and insurance products offered by institutions, rather than self-managed—have the potential to offer greater protection to low-income households than they can provide themselves through informal means.[26]

This reduced vulnerability is generally a secondary effect of products designed to serve households' investment needs rather than their primary purpose. Financial services specifically designed to address households' risk management needs can provide even greater protection. This section summarizes the characteristics of credit and savings products designed to address the risk management needs of low-income households. It also identifies the limitations of savings and credit products, and indicates when insurance is a more effective tool for managing risk exposure.

[26] Rutherford (1999), Zeller (1999), Morduch (1998), and Matin et al (1999) all provide supporting arguments for this view.

Risk Managing Credit and Savings Products

Credit and savings products offer low-income households a method for converting a series of small contributions into a large sum of money.[27] Three characteristics of credit and savings products affect their ability to meet households' risk-management needs:

- *Access:* The fewer restrictions households have in accessing a loan or their accumulated savings, the greater their ability to cope with uncertain risks. If, for example, a household can obtain a loan or withdraw from their savings within a day of losing its home in a fire, the family can begin reconstruction immediately, thereby minimizing the loss associated with the fire. If, however, the family's savings are held as fixed deposits or the loan application process is restrictive (e.g., long delay in processing applications, restrictions on use of credit), financial products will not provide the household with effective protection.

- *Savings/Repayment Schedule:* Most existing savings and credit products for low-income households have rigid schedules determining the amount and timing of contributions or repayments. Financial products that allow households to adjust when and how much is paid, either in terms of a savings deposit or a loan repayment, will allow households to cope with larger losses. By collecting an affordable payment over time, flexible financial products allow households, especially the poorest ones, to accumulate or repay an amount greater than could be achieved with a fixed schedule.

- *Amount Available:* Financial products that give households greater flexibility in determining the size of the loan or the amount withdrawn from savings will offer more effective risk protection. For example, a family member may develop a minor illness at a time when the family does not have enough income or savings to pay for treatment, even though the cost of the treatment is relatively low. If the family can only obtain a loan for a larger amount, the loan will not be an effective method to manage this risk.

This is not to suggest that low-income households should automatically be offered unrestricted access to completely flexible credit and savings products. The provider of the products must develop sufficient controls to ensure that the products will be sustainable and not over-burden households with debt.

The emergency loan funds of institutions such as the Grameen Bank, Shakti Foundation, and Action Aid in Bangladesh are good examples of providers reducing typical restrictions on credit products to provide more effective risk protection.[28] By providing interest-free loans with flexibility in the loan size and the repayment terms, these institutions have created a product that is more responsive to the risk management needs of their clients.

[27] Rutherford (1999)
[28] Matin *et al* (1999).

These products, however, like all credit and savings products, have certain limitations in their ability to serve households' risk management needs. Credit and savings products cannot provide complete protection against risks resulting in a loss greater than what a household can save or repay. A household may protect itself by taking a loan to cover significant medical expenses, but this protection is ineffective if the payments are greater than the household can afford to repay. As the size of loss increases relative to a household's expected future income, credit products become increasingly ineffective risk-management tools. Similarly, savings products offer only partial protection against risks causing large losses relative to household income. At this point, insurance becomes a more effective method of risk management.

Insurance Products

The risk coping strategies discussed above protect against most of the life cycle needs and partial protection against some of the other risks faced by low-income households. By pooling the risks of many households, insurance products have the potential to offer more complete protection against property, health, death, and disability risks. Box 5 provides a simple example of how insurance pools risk to provide more protection than savings or credit products.

Box 5: Insurance: An Example

"Insurance aims to protect people from a low probability, catastrophic loss. To illustrate, suppose that a typical African adult between the ages of 15 and 60 years has 1 in 10,000 chances of experiencing severe illness or injury, resulting in a US$3,000 hospital bill in any given year. If this hospital bill were spread over all 10,000 people, then on average, each person's expected annual cost would be (.0001) x (3,000) = $0.30 a year for insurance that covers such a catastrophic loss, thus transforming the low-probability $3,000 loss into a certain but small $0.30 annual loss…If an insurance company could assemble 10,000 people with this loss probability and collect $0.30 from each of them, it would be prepared to incur the hospital expenses of one $3,000 loss a year. ... [and] if each person were to pay $0.60 per year... the insurance could probably survive on a profit-making basis..."

Shaw & Griffin, 1995 (p. 145)

By pooling the risk over a large number of people, insurance can protect them against a significant loss (relative to average income) at an annual cost that is within the household's budget. The advantage of an insurance product as protection against large, uncertain risks becomes clearer when compared with how a credit or savings solution would perform in a similar situation. If a person faced with the same risk of illness or injury resulting in a $3,000 loss were to rely on savings for protection, they would need to "put $60 a year under the mattress for fifty years and finally achieve (near the end of life) the protection that would otherwise have been available every year by buying the above insurance plan for $0.60 a year (for a total lifetime premium of only $30.00)" (Dror, 1999). If the same person were to take out a $3,000 loan to cover the medical expenses, they would need to repay more than $250 per year over 40 years to pay off the loan.[29] In this case, insurance is clearly the most economical protection for a low-income household.

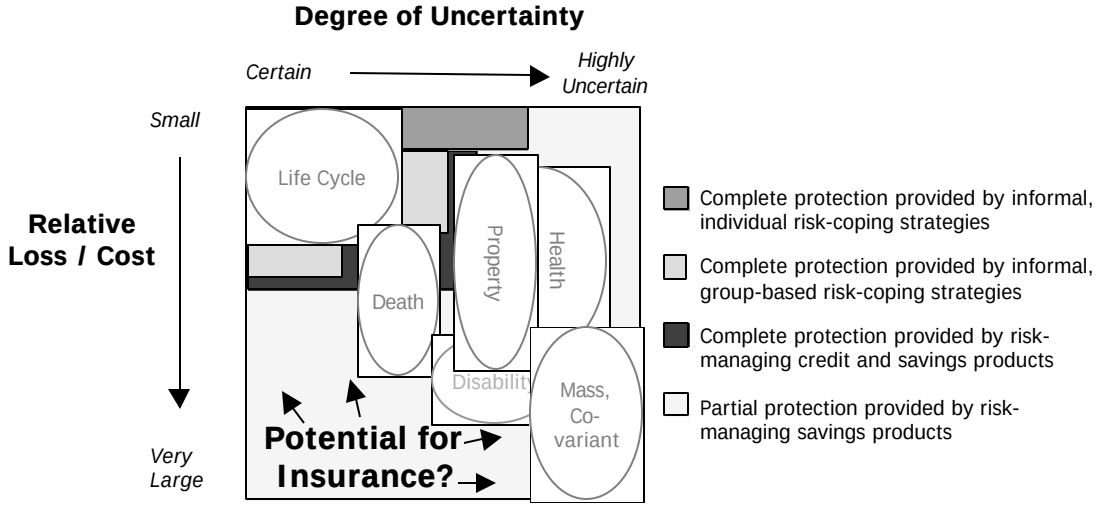
[29] Assumes 8 percent annual interest rate, no compounding of interest.

These examples raise the question "is insurance also more efficient than credit or savings against smaller, more certain risks?" While there is no specific point when one becomes more efficient than another, as the size of loss and degree of uncertainty decline, insurance loses out to credit and savings as providing the most efficient protection. The higher the certainty of the event, the more difficult it is for the insurance provider to spread the risks over a pool of households. For example, if most households need money to send their children to school—a fairly certain event—and only households with children wanted "education insurance" if it existed, then the insurer would not be able to use the premiums from some households to pay for the claims of others. In this example, savings or credit would be a more appropriate risk management tool than insurance.

CONCLUSION

As illustrated in Diagram 4, low-income households have a need for more complete protection than can be provided through informal means or through other financial services such as credit or savings. Risk-pooling insurance products have the potential to meet this need. However, this does not fully answer the question of when insurance products are an appropriate response to risk management needs. This section established when there is a need among low-income households for risk-pooling, insurance products. However, the question of whether providers can economically and effectively develop and deliver these products remains open. This is the topic of the next chapter.

Diagram 4: Potential for Insurance as a Coping Strategy



CHAPTER THREE
INSURANCE: THE PROVIDER'S PERSPECTIVE

While the evidence suggests that low-income households have a need for risk-pooling protection, market demand is just one factor influencing the design and delivery of an insurance product. To accept that insurance is an appropriate response to households' needs, a provider must be comfortable with the amount of risk that they will take on in offering an insurance product ("institutional risk"). Understanding the risks borne by an insurance provider is a science whose fundamental principles have been refined and developed since merchants and investors first arranged marine insurance contracts in the coffee houses of 17th and 18th century London, England.[30] These same principles are still applied daily in the actuarial and underwriting departments of private insurers around the world.

This chapter will accomplish three objectives. First, it will outline these fundamental principles. Second, by applying these principles to the bubble diagram, it will answer, "which risks can insurance cover?" Finally, it will briefly summarize the common types of insurance products used to cover those risks.

UNIVERSAL PRINCIPLES FOR PROVIDING INSURANCE

For institutions considering offering insurance to low-income communities, only risks that can be addressed while employing these universal principles are appropriate markets for developing an insurance product.[31]

1. Large number of similar units exposed to the risk
2. Limited policyholder control over the insured event
3. Existence of insurable interest
4. Losses are determinable and measurable
5. Losses should not be catastrophic
6. Chance of loss is calculable
7. Premiums are economically affordable

1. **Large Number of Similar Units Exposed to the Risk**: This requirement has two components. First, insurers require that risks in a particular class or group of policies be similar in nature. For example, a life insurer would require that holders of a certain life insurance policy all have similar exposure to the same types of death risk.

Second, insurers require a large number of these similar risks, relative to the total population exposed to the risk, in the risk pool. Large numbers of policyholders (a)

[30] The development of marine insurance in the coffee houses of London, especially that run by Edward Lloyd, is widely considered to be the beginnings of the modern insurance industry (Bernstein, 1996).
[31] Adapted from "Principles of Risk Management and Insurance", Redja (1998)

reduce the potential for adverse selection—a situation where claims are higher than expected because only high-risk households purchase the insurance—and (b) increase the likelihood that the variance of actual claims will be closer to the expected mean used in calculating premiums. Calculating average expected claims requires a sufficiently large number of risks to achieve a statistically significant result. If the volume of claims vary significantly from the expected mean, the insurer's premium income will likely be insufficient to pay claims, leading to a reduction in reserves and, if claims consistently exceed expectations, eventually to insolvency. This concern is especially relevant for new insurance providers. Until a provider's customer base reaches sufficient scale, there is a significant risk that the experience of a small policyholder base will either not track closely to historical experience or be unacceptably volatile.

2. **Limited Policyholder Control over the Insured Event**: Insurance protection cannot be offered if policyholders can control whether an insured event will occur. If a policyholder has sufficient control over whether a risk can occur, they can take advantage of the insurance provider. Selling an insured truck and claiming it as stolen; setting fire to an old, insured home to build a new one with the insurance settlement; and failing to properly care for an insured goat thereby increasing the chance it will die of disease; all of these actions take advantage of the insurer by increasing their claims experience above expectations. These behaviors are called moral hazards.[32]

3. **Existence of Insurable Interest**: Insurance cannot be provided to policyholders who have a vested interest in a loss occurring. A property insurance policy, for example, on a home cannot be sold to anyone other than the residents of the home. If someone else could purchase such a policy, they would experience no loss if the house were damaged, but would receive a pay out from the insurance company.

4. **Losses are Determinable and Measurable**: Insurance providers must have a mechanism for verifying the occurrence of a loss and identifying its cause and value. Verifying the occurrence of a loss ensures that the policyholder has actually suffered a loss. Clearly identifying the cause of a loss allows a provider to determine whether the loss was covered by insurance and to improve their records for estimating the probability of future occurrences of the loss. Life insurers, for example, use death certificates to ensure that the cause of the death of an insured was not self-inflicted (see Principle 2). Determining the cause of a loss is more difficult for property insurers because the evidence of causation is often less clear. A damaged rickshaw, for example, may have been the result of driver negligence or may legitimately have been an accident.

Providers must also have an objective method for measuring the value of the loss. A pre-determined, objective valuation methodology allows providers to estimate the cost of future claims (essential in setting premiums) and reduces disagreements with policyholders over claims settlements.[33]

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[32] Moral Hazard is defined as dishonest, careless, or indifferent behavior by a policyholder that increases the chance of a loss (e.g., negligent maintenance of a sewing machine because it is insured).

[33] In West Africa, for example, many of the community-based Mutual Health Organizations (MHOs) have established pre-determined pay out amounts to value the cost of the health risks covered (Atim, 1998).

5. **Losses should not be Catastrophic**: The risk-pooling mechanism of insurance breaks down against risks that cause large losses for a substantial portion of the risk-pool at the same time. When a significant portion of the population is affected at the same time, the contributions of the unaffected are insufficient to protect the numbers of affected households.

6. **Chance of Loss is Calculable**: Setting insurance premiums requires estimating the size of expected losses and the chance of loss. To estimate the probability that a loss will occur, historical information on a sufficiently large number of people or property exposed to the same risk is required. If the number of people that have been exposed to a risk is statistically insignificant or the conditions leading to the occurrence of a risk have changed, the calculated probability of occurrence may be very different from the actual occurrences of a risk. Box 6 highlights the importance of accuracy in this calculation.

Even with historical loss data, the chance of loss may not be calculable. Events such as wars and cyclical unemployment occur on an irregular basis. For these risks, although historical frequencies of occurrence can be calculated, these averages are unreliable predictors of future incidences.

Box 6: Impact of Variations in Actual vs. Expected Claims

In the example from Box 5, the likelihood that an African adult would contract a certain illness was estimated at 1 in 10,000. For this estimate to be used in setting premiums for an insurance product, it must have been calculated based on:

- The experience of a sufficiently large group of people to ensure the statistical significance of both the expected occurrence of the illness (1 in 10,000) and the expected variation in occurrence.
- Historical occurrences of the illness in materially similar conditions

If the amount of historical information is too small or a new strain of the illness has recently developed (historical conditions have changed), future occurrences of the illness may be substantially different from the insurer's expectations.

To see the impact of a difference between the actual and expected occurrence of a risk, consider an institution that offers insurance to 10,000 persons at the $0.60 rate suggested and maintains a reserve to cover twice the expected variation in occurrence of one per 10,000. If in a single year, four of the 10,000 suffer from the illness, all of the insurer's premium income and reserves will be required just to pay claims.

7. **Premiums should be Economically Affordable**: Although a provider has all of the data to calculate premiums and feels confident that the risk of moral hazard is sufficiently low, it may be unable to offer insurance because the required premiums are greater than potential policyholders can afford. In general, for an insurance policy to be an attractive purchase, the cost of premiums must be substantially less than the benefit offered by the policy. This is why savings and credit become preferred risk management strategies as the certainty of a loss increases. "One view is that if the

chance of loss exceeds 40 percent, the cost of the policy will exceed the amount that the policyholder would receive from the claims settlement."[34] Box 7 illustrates this view using the health insurance situation from previous examples.

The experiences of institutions attempting to provide insurance without adhering to these criteria highlight their importance. Many of the national crop insurance programs that operated in the 1970s and 1980s are examples of well-intentioned plans that failed because they did not follow the seven principles. Box 8 describes how these programs failed to meet the criteria and the significant losses that resulted.

Box 7: Affordability of Insurance

Suppose that the health insurer in Africa discussed earlier chose to insure a relatively common illness instead of the severe illness described previously. After collecting historical data on frequency of occurrence and cost of treatment, the provider determined that 1 in 2 African males between the ages of 15-60 would contract this disease in a given year and the cost of treatment was $100. The basic annual premium for insurance against this illness would be: $100 x 0.5 = $50. Including an allocation for the insurer's expenses, the premium charged to the client would be close to, if not greater than the cost of treatment itself. For those who do not contract the disease until the second year, premium payments would exceed the cost of simply paying the bill without insurance.

Box 8: Insurance Without the Fundamentals: Crop Insurance

To improve the ability of rural farmers to repay loans from agricultural development banks (ADBs), many governments developed crop insurance programs in the 1970s and 1980s. These programs typically provided loan repayment and occasionally income supplements to farmers suffering crop yields below an established minimum. Similar programs were developed in countries as diverse as Brazil, India, the Philippines and the USA. In each country the results were disastrous, with expenses (administrative and claims) totaling 2 to 5 times revenues. The failure of these programs can be traced to their lack of adherence to the principles of insurance:

- *Moral Hazard:* Farmers were less likely to pursue sound husbandry practices because all severe yield losses were protected, leading to an increase in claims.
- *Catastrophic Losses:* Many catastrophic losses were covered by virtue of providing protection against all potential causes of low yields.
- *Calculable Chance of Loss:* Expected loss calculations were virtually impossible due to the number of potential causes of reduced yields.
- *Economical Premiums:* Most programs capped premiums to ensure that they would indeed be affordable. However, this made them woefully inadequate for covering losses and administration costs.

Adapted From Hazell (1992)

MATCHING SUPPLY AND DEMAND

By integrating this definition of insurable risks with the understanding of households' need for insurance, a clearer picture emerges of when insurance is an appropriate risk management strategy from both the households' and the providers' perspectives.

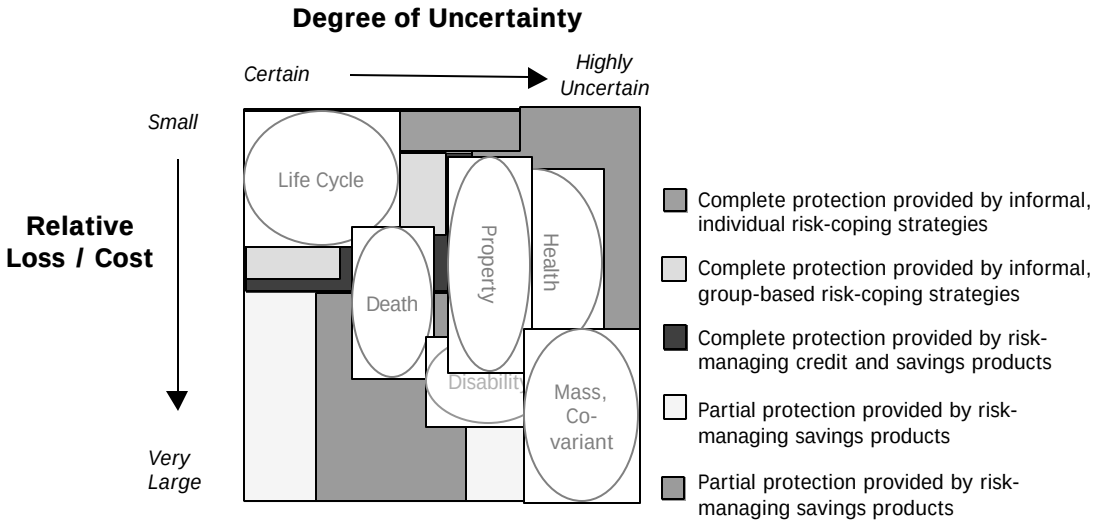
[34] Redja (1998), p. 23

As illustrated in Diagram 5, insurance becomes a less effective risk management response as the degree of uncertainty and relative cost associated with a risk reach extreme levels. As a result, most mass, co-variant risks, such as epidemics and natural disasters, are difficult to insure. This is especially true if an insurance provider has a relatively small customer base and operates in a contained geographic area. In this case, any risk that might cause significant damage to a large portion of the provider's customer base at the same time will be uninsurable.

Some mass, co-variant risks can be insured if an insurer spreads the risk among a sufficiently large group of policyholders. By directly offering policies to people over a large, dispersed geographic area or, more commonly, by achieving the same effect through reinsurance (discussed in Chapter Four), insurers have successfully developed products that protect against natural disasters, such as hurricanes and earthquakes.

However, where the expected frequency of occurrence of a mass, covariant risk cannot be reasonably predicted from historical records, such as wars and epidemics, or where a risk occurs often in the same region, such as flooding in Bangladesh, insurance will not be an economically viable solution for low-income households. Access to liquid savings deposits and aid from the international relief community are alternative sources for partial coverage against these risks (Siamwalla & Valdes, 1986).

Diagram 5: Appropriate Role for Insurance



TYPES OF INSURANCE PRODUCTS

Although all types of insurance follow the same fundamental principles, the details of how these principles are applied and the organizational requirements for providing insurance differ greatly depending on the type of insurance. This section describes the different types of products for protecting against death, health, property, and disability risks and how, from the provider's perspective, they differ from one another.

Life Insurance

Insurance against death risks (life insurance) is offered in three basic forms: term, permanent, and endowment life insurance. Within each of these broad categories, any number of specific products can be created.

Term life insurance provides basic insurance protection for a fixed, temporary period of time (the "term"). Term insurance policies always have a pre-determined face value i.e., the amount paid out in the event of death is pre-determined in the insurance contract. Outstanding balance life insurance, where an insurer agrees to repay the borrower's loan if they die, is an example of a term life insurance product. The term of the insurance is equal to the length of the loan contract and the amount of insurance is pre-determined by the outstanding balance on the loan.[35] The "life-savings" product offered by many credit unions in developing countries is another excellent example of how term-life insurance can be developed for low-income communities (see Box 9).

Box 9: Life Savings Insurance

Originally developed as a tool to promote savings in credit unions, "life-savings" insurance is a valuable product for helping households cope with the cost of a death in the family. Many credit unions purchase term-life insurance on the savings held by credit union members. By paying annual premiums of a fixed percentage of the total balance held in savings, these credit unions are able to pass on to the family of deceased members an insurance benefit equal to double (or in some cases triple) the amount in the member's savings account at death up to age 50. For savings between age 50 and age 70, the pay out usually declines as the probability of death increases. By offering this insurance policy, credit unions are able to serve two of low-income households' needs, the need to accumulate savings and, when a family member dies, the need for cash to cover burial expenses and establish replacement sources of income.

Weihe et al (1997); Interview with Dory Christensen, CUNA Mutual

Permanent life insurance differs from term insurance in two ways. First, permanent life insurance offers households an opportunity to save as well as receive insurance protection. The savings component provided by a permanent life policy is called the cash value of the policy. The cash value is determined based on the amount a household has contributed to the policy, less a charge for the cost of providing insurance, plus interest earned on the amount contributed. Just like a savings account, if a household decides to terminate the insurance policy they receive the cash value of their premium contributions made to that point. They can also make partial withdrawals of the cash value or borrow against the value of the policy. In this way, a household can accumulate assets through their premium contributions and at the same time, in the event of a death, the household receives a greater benefit than if they had simply maintained a savings account.[36] In a sense, term life is similar to renting insurance, whereas permanent life is like buying it.

[35] Many types of insurance can be offered in conjunction with credit. See Part II of this study for further descriptions.

[36] The perceived disadvantage of saving though an insurance product is that the overall return on the policy in the early years will be negative until the annual interest earned is sufficient to cover the insurer's annual cost of offering risk protection.

In addition, permanent life insurance offers protection for a lifetime rather than just a fixed term. On some policies premiums are paid each year throughout the course of the policyholder's life, while on others the household can retain their insurance protection for life without continuing to make premium contributions once the interest earned on the cash value of a policy is large enough to cover the provider's cost of providing the insurance.

Endowment life insurance combines features of both term and permanent insurance. Like permanent life, endowment policies have a cash value. However, endowment policies provide protection for a fixed term, rather than for a lifetime. If an endowment policy reaches the end of its term and the policyholder has not died, he or she receives a fixed pay out representing the cash value of accumulated premiums plus interest.

For providers of life insurance, whether term, permanent or endowment, setting the prices and provisions of the insurance contracts is key. Prices need to be affordable, but sufficient to ensure the financial solvency of the insurer in the event of an increase in unexpected deaths. The basics of this calculation are discussed in the section on setting prices in the next chapter. In addition, insurers operating in an inflationary environment need a mechanism to maintain the real value of the policy.[37]

Property Insurance

Property insurance can protect against the cost of damage or loss of just about any type of asset. For low-income communities, households are most likely to need to protect livestock, homes, business stands or buildings (e.g., market vendors' stand), inventory, work-related tools (e.g., boats in fishing communities) and personal valuables.

Property insurance is similar to term life insurance in that it offers coverage of a fixed amount for a limited amount of time. Property insurance differs from life insurance in that it covers damage to, as well as loss of, the insured asset. The provision of property insurance also tends to be riskier and more administratively complex than life insurance. Two aspects of property insurance lead to this greater administrative complexity:

- *Greater Complexity in Asset Valuation:* Property insurers need to have a reliable method for determining the value of the asset to be insured. Should, for example, the compensation for a poor family that has their insured pig stolen be determined based on the original purchase price of the pig, on the cost of replacing the pig today, or should a fixed value be placed on all insured pigs? Conducting asset valuations increases the administration required to issue a property insurance policy.

- *Higher Likelihood of Fraudulent Claims:* Households can more easily make false claims that an insured asset was damaged than they can make such claims about the

[37] This inflation adjustment mechanism is less relevant to other types of insurance because they are typically renewed on an annual basis, and therefore can a built-in mechanism for revaluation.

death of a family member. Property insurers need greater controls and protections in place to protect against such abuses. These protections increase the administration required in verifying claims.

Health Insurance

Health insurance helps households cover the costs of hospital and surgical expenses, medications, and doctor's fees. Health insurance policies usually pay for some or all of the costs incurred as a result of specified accidents or illnesses. These costs are generally reimbursed to the household after verification of a claim or paid directly to the care provider. The range of health problems covered and the expected cost of treating these problems determine the premiums and the degree of risk for the insurer.

Provision of health insurance is more risky and more complex than either life or property for two reasons. First, the range of causes of health risks are much more varied and require more detailed information to identify and classify the relative risk-level associated with a potential policyholder. Second, there is a greater risk of unexpected increases in claims due to adverse selection and moral hazard and providers must protect against potential claims abuses by both the policyholder and the health care provider.

Disability Insurance

Disability insurance extends the protection offered by health insurance (coverage of the immediate medical costs of illness or accident) to include protection against reduction or loss of income due to illness or accident. If a rickshaw driver breaks his leg, he may be unable to work for several months. Temporary disability insurance would provide him with a monthly payment, equal to some portion of his average monthly wage, until he could work again, provided that the cause of the broken leg was covered under the insurance policy. Permanent disability insurance provides income replacement for the remainder of a person's life if they are no longer able to earn an income. In developed insurance markets, disability insurance is a very specialized product and risk category because of the challenges in underwriting the risk and managing disability claims.

Disability underwriting requires, in addition to an estimate of the probability that a prospective policyholder will suffer a disabling injury, an accurate assessment of the prospect's average income to determine the amount to be paid as income replacement. Measuring this amount for low-income households, given their erratic income flows, would add significant complexity for the insurer.

The on-going nature of disability claims creates additional risk and complexity for disability insurers. Policyholders have a greater opportunity to defraud the insurer, insurers have greater difficulty in measuring the size of a loss and require more complex financial management to fund the on-going pay outs.

CONCLUSION

The various insurance products discussed above are summarized, in order of relative complexity for the insurer, in Table 2. Chapter Four identifies and discusses many of the important considerations in developing and designing these products.

Table 2: Summary of Potential Insurance Examples in Low-Income Communities

Type of Insurance	Potential Low-Income Community Examples	Relative Risk/ Complexity to Provide
Term Life	▪ Insurance repays outstanding loan balances upon death of borrower ▪ Small face value policies designed to cover burial costs (can be either tied to or independent of loans)	*Low* ↓ *High*
Endowment and Permanent Life	▪ Life-Savings insurance ▪ 'Dowry Insurance' – policies purchased for a 10-15 year term upon the birth of a female child. Provides fixed-term savings vehicle with insurance pay out if family's primary income earner dies prior to the end of the term. ▪ 'Retirement Insurance' – similar to above, with longer terms.	
Property	▪ Insurance against damage, destruction and/or theft of household assets. ▪ 'Crop Insurance' – insurance against specific causes of poor yields for specified crops. ▪ Natural Disaster insurance – with support from international reinsurers, coverage may be possible against some natural disasters	
Health	▪ Accident Insurance – coverage against medical costs due to accidental injury ▪ Curative Heath Insurance – coverage to defray costs of medications and medical attention for specific illnesses and procedures	
Disability	▪ Limited Disability – Insurance makes on-going loan repayments if borrower becomes disabled	

CHAPTER FOUR
LEARNING FROM ESTABLISHED INSURANCE PROVIDERS

The previous chapter described when insurance is likely to be an appropriate risk-management strategy for low-income households. For situations where insurance is appropriate, this chapter discusses important factors in designing, providing, and managing an insurance product:

- Product Design
- Distribution Channels
- Financial Management
- Insurance Regulation

The information in this chapter is predominantly drawn from three sources: general insurance texts, published research on insurance provision in low-income communities, and the experiences of established insurers, such as credit unions, cooperatives and home service delivery companies, in low-income environments.

PRODUCT DESIGN

Designing an insurance product involves determining the details of the product such that both the principles of insurance provision described in the previous chapter and the needs of consumers are satisfied. This process often involves making tradeoffs between the interests of the provider and the interests of the consumer. For example, premiums need to be set high enough to protect the provider against losses, but not so high that they exclude consumers with lower incomes. This section identifies several of the important product design issues faced by insurers, describes some of the options available and discusses their impact on providers and policyholders. The issues discussed are: *Group vs. Individual Insurance, Setting Prices, Protecting against Moral Hazard, Protecting against Adverse Selection, Reaching Minimum Required Pool Size, and Valuing Losses*.

Group vs. Individual Insurance

All of the different types of insurance described in Chapter Three can be offered on a group or individual basis. While group and individual policies provide households with essentially the same protection, they are significantly different from the provider's perspective. Providers of individual insurance assess the risk associated with each individual policyholder and may adjust their policy as required. This, for example, is the reason why insurance providers may require clients to fill out lengthy questionnaires or undergo medical examinations before they purchase an individual life insurance policy.

Group insurance offers the potential for lower cost, less hassle insurance through coverage of many persons under one contract. By enrolling a group of individuals or

households to a single contract, the insurance provider reduces its unit costs in three ways. First, administrative costs per policyholder are reduced because the administration on a single contract covers many policyholders. Distribution costs per policyholder are also reduced, as a single sale results in the addition of many new policyholders. Finally, claims management costs are lower because the risk profile (average risk occurrence and variance from average) of a group is more likely to be closer to the insurance provider's expectations than is an individual risk.

To illustrate this point, consider a sample population of Kenyans whose average age at death is 56 years. An individual Kenyan may die at any time, creating a wide potential variance from the age of death of 56. For a randomly selected group of Kenyans, average age at death for the group will be less likely to vary as widely from the expected mean of 56. The larger the group, the closer the distribution of ages of death will be to the overall population. An expectation of a tighter distribution gives an insurer greater confidence in the amount of premium income that will be needed to cover expected claims.

The composition of a group is important in ensuring that the average occurrence of claims within a group will be closer to the overall average. If average claims within a group are consistently above the overall average, the insurer's financial health could be jeopardized. Two of the factors generally considered before providing group insurance are:[38]

- *Insurance is Incidental to the Group:* the group should not be formed for the sole purpose of obtaining insurance. Otherwise, a disproportionate number of "high-risk" individuals will likely join, leading to greater than expected losses for the insurer.

- *Flow of Persons through the Group:* a flow of young people into the group and of older people out of the group maintains the average age of the group. Older people generally are more likely to make claims on their life, health and disability insurance.

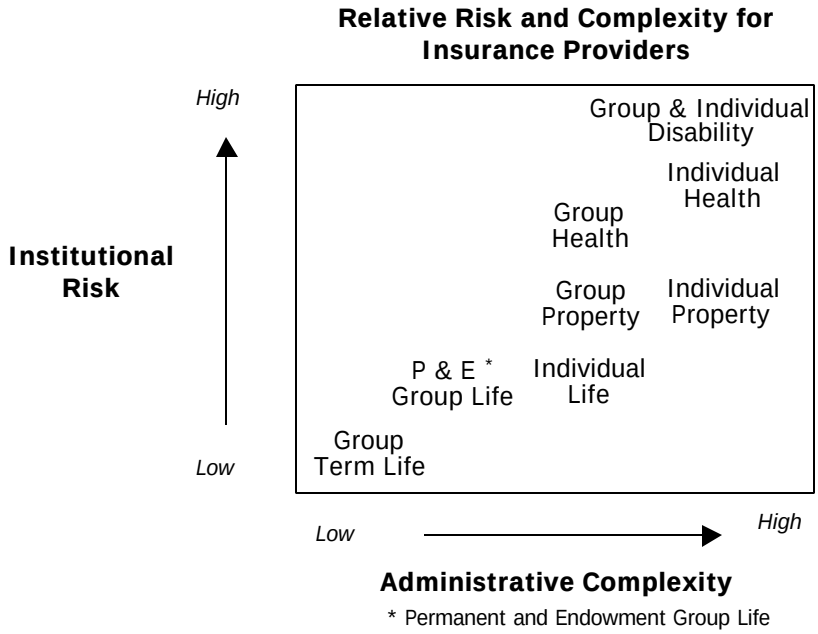
If a sufficient flow of persons through a group cannot be achieved, the group insurance policy can be re-priced regularly to reflect the changing risk profile of the group.

In general, group-based products are less complex to provide and are less risky for the provider than individual insurance on a similar type of risk.[39] Considering this in combination with the understanding of the complexity of providing insurance against different types of risks discussed in Chapter Three, Weihe *et al* (1990) map the various product combinations according to the risk and complexity involved in providing them (see Diagram 6).[40] They identify, group-based life insurance products, such as life savings insurance, as the least risky and least complex product to provide. Individual

[38] Adapted from Redja (1998).
[39] However, group insurance alone may not be sufficient to reduce costs and maintain affordable premiums for low-income households. See the current evidence on community-rating in the U.S. health care reform debate.
[40] Weihe *et al* (1990)

Health and Disability insurance are, on the other hand, considered as the most difficult (risky and complex) to provide.

Diagram 6: Institutional Risk and Complexity Matrix for All Insurance Products



Setting Prices

One of the most important and potentially difficult issues in developing an insurance product is setting prices, or rate-making. For established insurers, the process of rate-making is handled by specialized actuaries and involves a series of complex calculations to ensure that the income from premiums will cover all claims and operating expenses, and generate a profit. This process is relatively straightforward for a simple term life insurance product, however it becomes quite complex for insurance contracts that extend over the policyholder's entire life (as with permanent life insurance) or for risks that can occur multiple times (as with health and property insurance).

This section describes the basic process for pricing a simple insurance product and identifies some of the possible variations in how prices can be set over time and how premiums can be collected.[41] This process is applicable for simple insurance products, such as term life insurance. Rate-making for more complex products requires more detailed calculations and an understanding of the actuarial sciences.

The premium-setting methodology described here uses the example of a term life insurance product and requires two simplifying assumptions:

- Premiums are paid at the beginning of the year; and

[41] The process described here has been adapted from Redja (1998).

- Death claims are paid at the beginning of the year

Clearly, actual death claims will not be paid out until after a death has occurred. The assumption that they will be paid at the beginning of the year simplifies the calculation and is conservative because an insurer would typically be able to earn interest income on the premiums collected until they are needed to pay claims. As a result, this approach leads to a calculated premium greater than what should be necessary to cover actual claims settlement costs. This provides a built-in cushion or degree of protection for the provider.

The first step in calculating the gross premium—the amount that will be charged to the policyholder—is to calculate the Pure Premium (PP), or the amount that, together with compound interest, will be sufficient to pay all claims. The PP does not include allocations for the provider's expenses or profits, these are added at a later stage. Box 10 describes the process of calculating a PP.

Box 10: Calculating a Pure Premium

Assume that the face value of the policy is $500 and the duration is 1 year. Further assume that the prospective policyholder is a 30 year-old, African male.

1) Determine probability of death in a given year based on historical mortality of similar African males	assume 7 per 1,000 = 0.7%
2) Multiply the probability of death by the face value of the policy	0.7% X $500 = $3.50

Pure Premium = $3.50

To determine the rate that will be charged to policyholders, a loading allowance is added to the pure premium. This loading allowance includes an estimate of annual operating expenses, a margin for reserves, and, potentially, an allocation for profit. The loading allowance is calculated per policyholder, based on an estimate of the expected number of policyholders for a given year. The operating expenses commonly included in the loading allowance are:

▪ Distribution Costs	The costs of marketing and specifying the terms of the policy
▪ Underwriting Expenses	The costs of screening applicants
▪ Claims Assessment Expenses	The cost of verifying claims
▪ Collection Costs	The transaction cost of collecting premiums
▪ Other Administration Expenses	The costs of administrative overhead

These calculations of pure and gross premiums assume that the probability of death does not change during the term of the insurance. Given that the chance of death increases with age, the pure premium on a term life insurance policy will increase over time if the policy is for multiple years. If the policy in Box 10 were extended to a five-year term, the total pure premium would be the sum of a series of annual premiums (increasing each year from the initial $3.50) discounted back at the expected interest earned on the invested premiums. Box 11 provides an example of this process.

Box 11: Pricing Multiple Year Insurance

Using similar assumptions as the previous example, assume that the policy is for a five-year term and that the initial premiums paid are invested at 5% p.a. By investing the initial, up-front premium, the insurance provider uses interest income to pay a portion of the claims. This is reflected in the reduction of the annual pure premium by the present value factor.

Age	Probability of Death		Amount of Insurance		Present Value of $1 at 5%		Cost of Insurance
30	0.7%	X	$500	X	1	=	$3.50
31	0.73%	X	$500	X	0.95	=	$3.48
32	0.8%	X	$500	X	0.91	=	$3.63
33	0.9%	X	$500	X	0.86	=	$3.89
34	1%	X	$500	X	0.82	=	$4.11
					Total Pure Premium		$18.61

By collecting $18.61 at the start of the first year of the policy, the insurance provider will have enough income from premiums and interest to cover all expected claims. Added to the pure premium is a loading allowance to cover operating expenses and reserves.

Both of these examples assume that the full amount of the premium will be paid at the start of the policy. It is more common for premiums to be paid in installments. Accepting premium payments in installments creates more risk for the provider. If a policyholder dies prematurely, the provider loses their future premium payments. Furthermore, installment payments reduce the amount of interest earned by the provider to cover claims expenses and increase the administration costs required to collect premiums. As a result, the total premiums collected on an installment-pay policy need to be greater than the Total Pure Premium amount calculated through the process above.

Setting premiums for permanent and endowment life, property, health and disability insurance follow a similar, though more complex, process. Several factors increase the complexity of calculating premiums for these types of insurance:

- *Variable Pay Outs:* The amount of a claim is often not known until the claim is made. As a result, the provider needs to develop a methodology for estimating the expected size of claim for use in the rate-making calculation.

- *Multiple Occurrences:* For products besides life insurance, providers need to calculate the expected frequency of occurrence in addition to the expected likelihood of occurrence.
- *Greater Range of Product Features:* Permanent and endowment life insurance incorporate savings along with the insurance benefit; health and property insurance can incorporate deductibles, waiting periods and other mechanisms for reducing moral hazard (discussed below). These features change either the revenue the provider will receive or the amount they will have to pay out and, consequently, change the premium.
- *Adjustments for Historical Policy Experience:* Many property or health policies adjust their annual premium based on a policyholder's claims history.

Protecting Against Moral Hazard

Exposure to moral hazard—the risk that policyholders will have undue influence over the occurrence of an insured event—motivates insurers to develop certain product adaptations. The primary mechanism for reducing moral hazard is underwriting—the screening of prospective policyholders to assess their potential risk to the insurer. Strict application of underwriting standards can preclude prospective policyholders from defrauding the insurer.

Other product features reduce the risk of moral hazard either by restricting the benefits provided by an insurance product or increasing the information required before a claim is paid out. Generally, providers adopt several of these features, placing greater restrictions on products, such as health or disability insurance, with a greater degree of moral hazard-related risk. The challenge is to effectively limit institutional risk without prohibitively reducing the benefits received by policyholders or prohibitively increasing the provider's costs and therefore required premiums. Several of the most common methods for combating moral hazard risk are as follows:

- *Cause of Loss Exclusions:* Insurance contracts specifically exclude potential causes of a loss that can be controlled by the policyholder. Property insurers do not, for example, cover willful damage to insured property.

- *Claims Procedures:* Insurance providers mandate specific requirements that policyholders must satisfy before they can receive an insurance settlement. These requirements work to protect the provider against fraudulent claims. Generally, providers require some form of proof that the insured event has occurred and the cause of the occurrence. Life insurers, for example, typically require presentation of a legal death certificate before a claim will be paid. The degree of detail required varies according to the type of risk covered. Claims procedures for life insurance are more straightforward than for health or disability insurance. Box 12 provides an example of the claims procedures found in Mutual Health Organizations in West Africa (Atim,1999).

Box 12: Fraud Control in the MHOs of West Africa

Mutual Health Organizations (MHOs) are small, community-based organizations that arrange for access to diagnosis and treatment of specified health risks through affiliated health care providers. In West Africa they are a relatively new and growing grassroots response to the inadequacies of public and private health insurance provision. One of the important requirements for an MHO to be financially sustainable and continue to serve its members in the long-term is the development of a rigorous claims verification process. These processes must not only protect against fraud or abuse by the insured, but also against false claims from the health care provider. To protect against fraudulent claims and cost overruns, different combinations of claims verification processes were employed:

- Use membership cards or other checks to verify the identity of the person requesting treatment to ensure they are a contributing member to the health insurance plan.
- Establish policies such as requiring a second opinion to verify that people are correctly diagnosed.
- Pre-determine approved treatments for the risks covered to protect against the unnecessary treatments, e.g., the use of costly brand-name drugs when generics are available.
- Verify that a patient has actually received the treatment before the health care provider is reimbursed for the cost of providing the treatment.

Adapted from Atim (1999)

- *Co-payments and Deductibles:* These features limit the amount that an insurer will pay when an insured event occurs. Insurers requiring co-payments agree to pay a certain portion, less than 100%, of a policyholder's loss. For example, a health insurance provider might pay 70% of a policyholder's medical costs, requiring that the policyholder cover the remaining 30%. Similarly, deductibles require the policyholder to pay up to the deductible limit on all claims. The insurer pays losses greater than the deductible limit. Property insurers often include deductibles in their policies; if an item is lost or stolen, the policyholder has to pay a portion of the replacement cost. Co-payments and deductibles are generally used either to discourage policyholders from making fraudulent claims or to influence policyholders' usage of the insurance where frivolous or elective situations are possible.[42]

Informal group-based financial services, such as those discussed in Chapter Two have also developed methods for reducing moral hazard risk. Two such methods described in Rutherford (1999) are:

- *Products with a Fixed Lifecycle:* One of the reasons many informal group-based financial services have a fixed duration is to reduce exposure to fraud. If, for example, a ROSCA manager is believed to be stealing from the fund, the members

[42] This is especially common with health insurance, as policyholders can quickly increase costs by visiting the health care provider for very minor ailments, even if they are able to treat themselves.

need only wait until the current cycle is completed to disband the current group and re-form the group with another manager.

- *Use of Established Social Groups:* Many informal financial services are operated through existing social organizations—religious groups, labor organizations, etc. These groups can use social pressure and members' desire to retain group membership as tools to encourage members to avoid morally hazardous behavior.

There is no evidence currently available to suggest whether these informal mechanisms are more or less capable than the formal devices described above of protecting against moral hazard concerns in low-income communities.

Protecting Against Adverse Selection

Insurance providers must also protect against the risk of adverse selection. Adverse selection occurs when individuals with a high probability of risk-induced losses predominate among policyholders and low risk individuals fail to join. With health insurance, for example, individuals that are most likely to require medical treatment are those that are most likely to want to purchase insurance. If an insurer has calculated its premiums for an average probability of requiring treatment, losses will exceed expectations if high probability individuals are over represented.

As with moral hazard concerns, underwriting is the primary tool used by established insurers to reduce adverse selection. As an insurer's policyholder base increases in size, underwriting standards can be used to separate pools of policyholders according to their risk profile. This process is common among established insurers as, for example, smokers are grouped into a higher risk pool and charged higher premiums for their health insurance. For smaller insurers in less developed insurance markets, efforts to reduce adverse selection are more likely to focus on ensuring that the mix of risks within their portfolio reasonably approximates the expectations that were used to set premiums. There are several ways in which these insurers can reduce their exposure to adverse selection risks:

- *Waiting Periods:* By requiring that new customers wait a period of time before making any claims, the insurance provider reduces the likelihood that customers will purchase the insurance simply to claim an immediate benefit. Waiting periods are most common in health and disability insurance contracts. In this way, potential policyholders cannot wait to purchase the insurance until they know that they need it.

- *Mandatory Insurance:* Making insurance coverage mandatory also reduces adverse selection risk. If policyholders are required to purchase the insurance, adverse selection cannot occur because all high risk and all low risk individuals are required to buy the product. To be effective, mandatory insurance requires that either purchase of insurance is mandated by the government (as with car insurance in North America) or policyholders purchase or receive the insurance as part of another group or

organization. Without this condition, an insurer has no ability to enforce the mandate that insurance be purchased.

Reaching Minimum Required Pool Size

The first principle of insurable risks described in Chapter Three states that insurers need a sufficiently large number of policyholders to increase the likelihood that actual loss experience will more closely track with expectations. This requirement can be especially challenging for new insurance providers lacking an established customer base. If, for example, the African health insurance provider described in earlier boxes had to pay a claim before it had signed up and collected premiums from 5,000 customers, the funds it would have collected would have been insufficient to pay the claim.

Drawing on the experiences of established insurance providers, there are a number of ways in which a provider can develop a sufficiently large customer base and reduce this risk.

- In the mid-to-late 19th century, when many of today's largest North American insurers were founded, new providers sold insurance policies that did not take effect until the company had enrolled a specified, large group of customers. In this way, these companies protected themselves against the potentially devastating impact of unexpected losses early-on (see Box 13). The challenges with this approach are: (1) developing sufficient trust so that customers are comfortable making payments on a policy that will not take effect until a later date; and (2) setting an appropriate minimum number of customers.

Box 13: The Beginnings of Clarica Life Insurance Company in Canada[1]

On Dec. 19th, 1868 a group of entrepreneurs from Waterloo, Canada established the Ontario Mutual Life Assurance Company with the permission of the regional government. However, it was not until March 1870 that the company's insurance protection actually took effect. The delay was due to a requirement in the company's charter that they have 500 applications approved before the policies became active. With a starting customer base of 500, the company could be more assured that actual claims would track closely to their expectations and that a sufficient reserve was available to cover any losses greater than expectations.

Cowls (1970)

- In situations where a large customer base for some other product or service already exists, making the purchase of insurance coverage mandatory for these customers is another way to quickly develop scale. MFIs with a significant number of credit customers, for example, could quickly develop scale for a Outstanding balance life insurance product by including it as a mandatory component of their loan products. The challenge with this approach is to ensure that customers value the protection provided by the insurance product, otherwise they may stop using the original product or service because they are unsatisfied with the insurance component.

- Offering group insurance, as discussed earlier, is another effective method for insurance providers to reduce their risk of unexpected losses during start-up.

Enrolling a handful of groups, each with 50 to 100 members is generally a faster and less costly method to develop a customer base than selling one or two thousand individual policies.

- Reinsurance, described in more detail below, can also help a new insurer compensate for the risks of a small initial policyholder base. Reinsurance allows smaller insurers to share risk with other insurers in different regions or countries, effectively developing sufficient large risk pools by combining the risks of many insurers.

Valuing Losses

Property, health and disability insurance policies must all include an established methodology for valuing losses covered under the policy.[43] The valuation methodology provides the policyholder and the insurer with a clear and reasonable process for determining the amount of a settlement and avoids confusion and disagreement. For example, if a local villager's insured pig is stolen, there are several different methods for determining how much compensation the villager should receive:

- *Original Purchase Cost:* the price paid when the asset was purchased.
- *Replacement Cost:* the current cost of replacing the asset.
- *Physical Asset Replacement:* providing the policyholder with a similar, new asset to replace the lost or damaged one.
- *Flat Rate:* the value of the asset is determined as part of the insurance contract at a fixed amount.

The choice of valuation methodology will vary according to situation and the type of asset being insured. Table 3 summarizes the advantages and disadvantages of each methodology.

In the case of health or disability insurance, there is a similar need for a clear valuation method. For example, a health insurance against a certain severe illness could agree to cover all costs associated with treatment of the illness, up to any amount. However, this methodology is open to significant abuse by both patients and health care providers. Instead, health providers generally agree to pay the health care provider (1) a pre-determined fee either for each member using the service, for each service provided or for each case treated (similar to the flat fee option in table 1); or (2) the market price for a pre-determined list of treatments for illnesses and accidents covered (similar to the replacement cost option in Table 3).

[43] Note that life insurance policies do not require such a methodology because the amount of the loss is determined as the face value of the policy.

Table 3: Valuation Methodology Examples

Valuation Methodology	Provider Advantages/Disadvantages	Policyholder Advantages/ Disadvantages
Original Purchase Cost (OPC)	*Advantages:* ▪ Potential loss is known once the policy is issued	*Advantages:* ▪ For depreciable assets, such as machines, inventory and durable goods, OPC may be greater than their replacement cost
	Disadvantages: ▪ Limited use of formal records likely to increase difficulty of determining and verifying OPC in an informal economy ▪ Limited control over size of pay out	*Disadvantages:* ▪ Likely to be less than the cost of replacing the asset due to inflation ▪ Does not provide any value for improvements made to an asset
Replacement Cost (RC)	*Advantages:* ▪ Likely easier to determine, to the extent that a market exists for the asset	*Advantages:* ▪ Provides full value for non-depreciable assets such as animals ▪ Protected against inflationary asset price increases
	Disadvantages: ▪ May be difficult to determine if only a limited market exists ▪ Potential loss is unknown until the loss occurs (increased difficulty in planning for potential losses) ▪ Potential for greater moral hazard risk if market price is high	*Disadvantages:* ▪ none
Physical Asset Replacement	*Advantages:* ▪ Provider controls costs by purchasing the assets themselves ▪ Potential cost reduction due to bulk purchase discounts	*Advantages:* ▪ Guarantees replacement of asset
	Disadvantages: ▪ Provider takes on added risk and cost of stocking and maintaining assets prior to settling claims ▪ Potential for moral hazard risk if provider's assets are of superior quality to policyholder's ▪ Difficult to charge deductibles / co-payments	*Disadvantages:* ▪ none
Flat Rate	*Advantages:* ▪ Simplicity ▪ Certainty regarding the size of individual losses ▪ Control over claims pay outs	*Advantages:* ▪ Simplicity ▪ Provides additional bonus if RC at time of loss is less than pre-determined flat rate
	Disadvantages: ▪ Potential for greater moral hazard risk if market value is very low	*Disadvantages:* ▪ Provides insufficient funds to replace the asset if RC is greater than the flat rate

DISTRIBUTION CHANNELS

Established insurers have developed a variety of distribution channels to sell and service their insurance policies. This section describes two of these channels broadly and identifies several possible variations on each. In these descriptions, the differences between the channels from both the insurer's and the policyholder's perspectives are highlighted.

Agency Distribution

The most common model for distributing and servicing insurance is through one of several varieties of an agency model.[44] In this system, an insurer contracts an agent to market and sell its policies. Under different variations of the model, the agents are alternatively employees of the insurer, employees of a separate institution or independent contractors. Agents can also either be exclusive, offering the products of only one insurer, or independent, offering products from many insurers.[45]

Regardless of the structure of the relationship between the agency and the insurer, the agent's role is to act as the retailer of the insurer's products. Agents typically identify prospects, collect and submit applications to the underwriting department of the insurer, deliver the policies for applications that are approved and collect the first premium payment. They explicitly do not perform any of the product development, pricing or underwriting on the insurance products. In variations where the agency is a separate entity from the insurer, the insurer receives all of the premium income and is responsible for all claims settlements.

The agency receives a commission from the insurer for each policy it sells. This division of costs and revenues reflects the division of risk in the relationship. The agency assumes virtually none of the insurance-related risk and, consequently, receives only a small portion of the associated revenues. One of the main advantages of an agent sales force is its mobility. Rather than having sales staff housed in a permanent location, agents are better able to actively find and solicit applications from potential new policyholders. Agents using bicycles or other simple means of transport to reach potential clients were relatively common in the early 1900's in North America.

Generally, on-going service such as premium collection and claims settlement occurs through direct contact between the policyholder and the relevant department within the insurer. Costs within the system are controlled by conducting much of this direct contact remotely or automatically. Life insurance premium payments, for example, are mailed to the insurer or directly debited from the policyholder's bank account, while receipts and

[44] Redja (1998) PP 501-506 provides a good summary of the various agency approaches.

[45] When an agency is independent and does not have the legal authority to enter into contracts on behalf of the insurer, they are called a broker.

proof of claims on health insurance are mailed in to the insurers claims settlement department.

From the policyholder's perspective, the key differences between different variations of the agency distribution model are the quality of customer service received, the range of products offered, and the cost of doing business with the agent (transaction costs).
One relevant variation on the traditional agency model is the *home service distribution* model.[46] Home service distribution is, admittedly, one of the highest cost systems used by established insurers. It is important to consider, however, for two reasons: (1) it focuses on customer service; and (2) it has historically been used to provide insurance in small amounts to low-income and working class households.

The home service distribution system was initially developed in the 1800s to sell *industrial life insurance*—life insurance issued in small amounts and designed for factory workers. Three of the five largest insurance companies in the United States (Prudential, Metropolitan Life, and John Hancock) were founded using the home service approach. The difference between home service and the agency system discussed above is the role of the agent. Home service agents sell **and service** their policies and they do so in their customers' homes. Rather than acting simply as a sales and marketing force, home service agents also collect premiums, deliver claims settlements, and provide other services to their policyholders. Early on in its development, the home service system also distinguished itself by collecting premiums weekly, rather than the annual, bi-annual or quarterly payments that were more common.

Home service distribution succeeded because it was tailored to serve the unique needs of its target client base—households with a desire to reduce their vulnerability to risks, little or no access to formal banking services, and a need to conduct transactions in relatively small amounts, given their limited incomes. In response to these needs, home service distribution allowed customers to purchase policies in amounts that were small in absolute terms, but large relative to their income and, with weekly premium collections, customers could easily cover premium payments out of weekly earnings. On some policies in the early 1900s, the premiums were less than 10 cents per week.

Home service distribution reached its peak in the 1950s and, with the growth of computer and telephone technologies, has declined to represent only a small proportion of life insurance premium income in the United States today.

Integrated Distribution

When insurance coverage is connected to the sale or use of another product, sales and service for the insurance product can often be integrated into the existing distribution channel for the other product or service. In this way, the insurer is able to distribute its

[46] Information on home service distribution was sourced from Gibson (1999), Life Insurers Conference (1994) and interviews with Bruce Dalzell, President, Life Insurers Conference.

products without having to maintain a costly agent network. Servicing costs for the insurer can also be reduced if the distribution channel for the other product can collect premium payments and deliver claims settlement. In return for the low-cost distribution of its products, insurers generally pay some portion of the distribution costs or a commission per policy sold. Box 14 provides an example of how integrated distribution works in supplying outstanding balance life insurance.

Box 14: Outstanding Balance Life Insurance at Canada Life

Canada Life (CL) is one of the largest providers of outstanding balance life insurance in Canada. CL has partnered with some of the nation's largest banks, Royal Bank, Scotiabank and Canada Trust, to provide protection against death and disability on over $US 40 Billion in loans.

Insurance is provided on mortgages, lines of credit and, in some cases, on credit card balances. In the event of death, the policyholder's loan is repaid. In the event of a disability resulting in loss of income, a portion or all of the periodic payments are made by CL, until the policyholder recovers. Application for coverage is simple and is handled by the loan officers at the partner banks. For personal loans, only the size and term of the loan are used to calculate premiums. For larger loans, such as mortgages, the policyholder's age and responses to a general medical questionnaire are also used.

Basic premiums on a $500 personal loan with a 1-year term are approximately $0.15 monthly ($1.80 for the year). The additional cost to the policyholder would be equivalent to increasing the annual interest rate on the loan by 0.7%

In the event of a death or disability, the policyholder's beneficiaries submit claims forms to the financial institution. Claims benefits are handled directly between the financial institution and Canada Life. Periodically, total premiums owing to CL and total claims owing to the financial institution are calculated, and the difference is paid by the corresponding party. The financial institution is generally also paid a commission either per policy or as a percentage of premiums.

While integrated distribution results in significant cost reductions for Canada Life, it also offers improved service to policyholders. They obtain their loan and insurance through a single application process, they can make a single payment for both the loan and the insurance, and they can deal with both products through a single point of contact.

Sources: Interview with Jim Winef, Canada Life, www.canadalife.com

When insurance is integrated with the distribution of another product it has the potential to benefit both the individual policyholders and the institution supplying the other product. In the case of outstanding balance life insurance, for example, the individual policyholders benefit because they or their family are freed from the responsibility of repaying a loan if they die or become disabled. The bank providing the loan also benefits from outstanding balance life insurance, through reduced delinquency rates, lower bad-debt collections costs, and increased revenues from commissions.

FINANCIAL MANAGEMENT OF INSURANCE

This section describes the financial structures used by established insurers and the methods that have been developed to track and measure their financial performance. In addition, two important elements of the financial management of an insurer, investment management and reinsurance, are discussed.[47]

Financial Structures

Insurance companies are generally established as either a stock insurer or a mutual insurer. The key difference between the two is ownership. A stock insurer is owned by individual investors, while a mutual insurer is owned by its policyholders. The individual investors, or shareholders, in a stock insurer receive any profits generated by the insurer and are responsible for covering any losses. For mutual insurers, insurance policies are typically *participating policies*, that is, policyholders participate in the profits or losses earned by the insurer. If a mutual insurer has a profitable year they might pay out a dividend to policyholders or reduce future premiums to refund the excess profitability. If a mutual insurer experiences losses, they can retroactively increase premiums to cover the loss.

For the insurer, there are two potential advantages of participating insurance. First, participating policies share the risk of claims losses with policyholders. This not only reduces the risk borne by the insurer, but may also decrease motivation for moral hazard if policyholders believe that they are ultimately responsible for any losses. Participating policies also allow a margin of error for insurers with limited experience in pricing. If at the end of a year, the insurer discovers that prices are higher than necessary, they have a ready mechanism to refund the difference to policyholders. In North America, many large insurance companies began operations as a mutual offering participating insurance; many have since converted to become stock companies.

Tracking and Measuring Financial Performance

The performance tracking and measurement systems used by established insurers reflect the unique nature of the obligations inherent in an insurance contract. The acceptance of revenue today for services provided in the future, and the uncertain timing and size of the

[47] The focus of this section is on the financial management of insurance. While much can be learned from established providers about operational management, the level of detail required to provide useful lessons to new insurers in this area is beyond the scope of this report. Readers interested in learning from the operational management experiences of established insurers should consider reviewing the materials available from industry associations. In North America, the Life Office Management Association (LOMA) (www.loma.org) has a very detailed series of publications and courses on many aspects of operational management. The Life Insurance Market Research Organization (LIMRA) (www.limra.com) has a variety of materials on the marketing and sales side of life insurance. For cooperative or mutual insurers, the ICMIF (www.icmif.org) can provide members with substantial information as well.

pay outs, affect how revenue, expenses and profitability are tracked and how financial performance is measured.

Tracking Performance

One of the unique elements in tracking an insurer's financial performance is the separation of underwriting and investment results on the income statement. Underwriting results are the revenues and costs associated with the business of providing insurance. Separate from these results, though still an important part of an insurer's profitability are its investment results, that is, the interest, other income and costs associated with the investment of its capital and reserves accumulated through premium collections.

An insurer's underwriting results, called Underwriting Profit (UP), provide an assessment of the insurer's ability to incorporate accurate estimates of claims and expenses in setting its premiums. A negative underwriting profit can indicate claims or expenses higher than expectations, while the reverse can be true for a positive UP. For small, fast growing insurers offering longer term insurance, such as providers of permanent and endowment life, UP and cash flow may be negative even though their premiums accurately reflect actual losses and expenses. This is due to the up-front weighting of costs in most insurance policies.

The costs of identifying and acquiring new customers, all of which occur in the first year of an insurance policy, are typically much greater than the annual cost of maintaining and servicing an existing policy. As a result, for most multi-year policies, insurers generate underwriting losses in the first-year of the policy and profits in later years. For small insurers this often constrains their ability to grow. Additional funds are needed to compensate for these short-term losses. These funds can either come from new capital infusions or from profits from the investment side of the business. While a short-term UP that is negative can be sustained if it is due to rapid growth in new policy sales, UP that is consistently negative over time will deplete reserves and bankrupt the insurer. Innovations in the sales and service model may be able to overcome this challenge. For example, insurers might reduce their up-front costs and increase agents' motivation to continue servicing existing clients if commissions are paid to an agent over the life of a policy, rather than all once when the policy is sold.

By investing its initial capital and any accumulated annual underwriting profits, an insurer generates interest and capital gains. This additional revenue can maintain an insurer's capital base in the face of short-term underwriting losses or can be an additional source of capital to fund growth if total profits are positive. The results from an insurer's investment activities are tracked separately from underwriting profits to clearly identify whether profits (or losses) are due to an insurer's underwriting or investment abilities. Annex A provides a more detailed look at a generic insurer's income statement.

In tracking the performance of an insurer's balance sheet, the reserves maintained to offset unexpected losses are very important. The three broad reserve accounts maintained by an insurer are premium reserves, technical reserves and actuarial reserves.

- *Premium Reserves:* These represent the unearned portion of any premiums collected. When an insurer accepts an annual premium on one of its policies it is agreeing to provide the policyholder with insurance protection over the course of the year. If a policyholder cancels their policy halfway through the year, the provider needs to refund the 'unused' half of the premium. To ensure that it has funds available for cases like this, insurers maintain a premium reserve account with sufficient funds to cover all 'unearned' premiums. As time passes and premiums are earned, the insurer transfers the funds out of reserves and has them available as general revenue.

- *Technical Reserves:* These represent the funds an insurer maintains as protection against unexpectedly high claims losses or expenses. The amount held in an insurer's technical reserves is generally set to reflect the amount of total insurance coverage in-force and the risk that excessive losses or expenses will occur.

- *Actuarial Reserves:* These represent liabilities that an insurer maintains to reflect the accumulating cash values in permanent and endowment life insurance policies. The insurer needs to set aside sufficient reserves to cover future obligations to return the cash value of any of its policies.

In general, smaller providers of insurance against risks with a greater frequency of occurrence, such as health risks, maintain a higher level of reserves relative to the value of their policies in-force. More detail on the reserves held by an insurer and other aspects of its balance sheet are provided in Annex A.

The above discussion most accurately reflects performance tracking for property, health and shorter-dated (less than 5 years) term life insurance policies. Permanent, endowment and long-term life insurers have an added layer of complexity in their financial statements to reflect the longer duration of these contracts and the cash value build-up in permanent and endowment policies. These insurers accumulate significantly greater reserves and assets on their balance sheets to reflect the on-going value of their policies. As a result, reporting of annual underwriting profit is less relevant, while concerns regarding capital adequacy and the amount and quality of reserves are more prevalent.

Measuring Performance

The requirements for recording insurers' income statement and balance sheet results lead to a set of measures that can be used to assess and compare their performance. The common measures of the financial health of an insurer fall into three categories:

profitability, leverage and liquidity.[48] The calculations used to measure an insurer's performance in these three areas provide an assessment of the current and future prospects for the sustainability of the institution.

- *Profitability* measures provide an assessment of an insurer's ability to generate positive returns both on an absolute basis and relative to the amount of capital invested in the institution.

- *Leverage* measures provide a view of the risk inherent in the insurance and investment portfolios of an insurer.

- *Liquidity* measures are used to judge an insurer's ability to meet its financial obligations out of cash flow and current assets.

Insurers with high profitability and liquidity and low leverage are more conservative and less likely to be susceptible to unexpected risks or losses. Tables 1-3 in Annex B summarize the specific measures used to assess an insurer's performance.

Investment Management

The discussion above of the investment side of an insurer's business highlights the importance of investment profits on the bottom line. The rate of return an insurer earns on its invested reserves has a significant impact on an insurer's financial results. However, the liquidity measures described in Annex B make clear that insurers must temper their desire to earn high returns with sufficient conservatism to maintain quick access to enough cash or near-cash investments to protect themselves in the event of unexpected losses.

Once an insurer has developed sufficient reserves to cover any immediate needs for cash outlays, which are invested in cash or near cash investments, the matching principle is generally applied. That is, the average duration of the commitments made in an insurer's investment portfolio is roughly matched to the average length of its insurance policies.[49] For insurance that is longer term, like permanent and endowment life insurance, investments can include long-term bonds or mortgages. The reverse is true for insurance coverage on risks that occur with greater frequency, such as most health insurance coverage.

One of the common investments for insurers is to use a portion of their reserves as a supply of credit. Loans, when well managed, can often provide a more consistent and higher return than many standard investments. An insurer can also more easily tailor the duration of its loans to match the average duration of its insurance policies.

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[48] From the methodology used by A.M. Best, the international rating agency for insurance providers. Further information on their methodologies and practices can be found at www.ambest.com.

[49] Frenzer (1994).

Similar to concerns about high concentrations of high-risk policyholders in their customer base, insurers also need to ensure that their investment portfolio is sufficiently diversified to protect against losses on any given investment. In Kenya, the insurance commission mandated a cooperative insurer to invest its reserves in government-held land. When land prices collapsed, the insurer was unable to weather a year in which losses exceeded premium income and folded. New insurers, with small reserves and a fast-growing number of policies outstanding are especially susceptible to fluctuations in the return on their investment portfolio.

Reinsurance

While investment management focuses on the investment side of the business, insurers use reinsurance to manage the financing of their underwriting business. "Reinsurance is the shifting of part or all of the insurance originally written by one insurer to another insurer."[50] Insurers enter into reinsurance contracts to address the following issues:

- *Improve their Ability to Grow:* Insurers with strong growth prospects, especially new insurers, are often constrained by the size of their reserves. Coverage can only be issued up to a low multiple of capital and reserves before the risk that an unexpected loss will substantially deplete reserves becomes too great. By transferring any coverage over and above a low multiple of capital and reserves to a reinsurer, a growing primary insurer can satisfy market demand without taking on undue risk.

- *Stabilize Financial Results:* Reinsurance contracts can be structured to fix an insurer's loss ratio at a certain percentage (all additional losses are covered by the reinsurer), thereby decreasing the variability in expenses and profits.

- *Protect against Catastrophic Losses:* Insurers can, in some cases, obtain reinsurance protection against the occurrence of catastrophic losses caused by specific events.

- *Improve Underwriting Expertise:* By signing a reinsurance contract, an insurer also gains access to additional underwriting expertise. The reinsurer can assist the primary insurer with pricing, designing safeguards against moral hazard and adverse selection, and developing underwriting standards.

- *Managing Sub-Standard Risks*: In addition to providing assistance in assessing risks, reinsurers can absorb risks which are too large for the primary insurer to manage. Because the reinsurer has access to similar risks in other insurers' portfolios, it can develop sufficiently large pools of these larger-risk policyholders from across many portfolios.

One of the promising uses of reinsurance in low-income markets is to open up markets for some of the mass, covariant risks, such as many natural disasters, that would

[50] Redja (1998), p. 519.

otherwise be uninsurable. While an earthquake in Colombia can cause dangerously high losses for a large proportion of a local insurer's portfolio, with reinsurance this risk can be shared among similar populations exposed to the risk of an earthquake in different parts of the world. Relative to this broader population, the losses experienced in Colombia (or any other individual location) are no longer catastrophic and can thus be insured. One of the key limitations of this sort of coverage is the cost of obtaining the reinsurance. For relatively infrequent events, reinsurance likely has strong potential. For mass, covariant risks that occur frequently in the same region, such as floods in Bangladesh, the cost of coverage will likely be prohibitively high.

Most small insurers rely on *treaty reinsurance*[51]—reinsurance that is automatically in effect on all agreed upon lines of business—to meet their reinsurance needs. The amount of insurance that will be ceded to the reinsurer is determined according to the contract. Three of the commonly used methodologies are:[52]

- *Quota-Share:* The two parties agree to share premiums and losses based on a fixed proportion. For example, a reinsurance contract might dictate that the parties share premium revenues and claims losses 50:50, in which case both the primary insurer and the reinsurer would receive half of the premiums and take responsibility for half of the losses. Generally, the reinsurer will also pay the primary insurer a commission to help cover the cost of acquiring customers.

- *Surplus Share (Stop Loss):* The reinsurer agrees to cover losses above a certain specified limit up to an agreed upon maximum amount. In this case, the primary insurer takes responsibility for all losses and all premiums up to the specified limit, above which the reinsurer takes over up to the maximum amount.

- *Excess of Loss:* Similar to surplus share agreements, excess of loss reinsurance is given to protect against only certain causes of loss. While in a surplus share agreement, the reinsurer covers losses above the specified limit, regardless of cause, in excess of loss arrangements, the insurance is only transferred if the specified cause, such as a hurricane or flooding, did indeed cause the loss.

Reinsurance is only a valuable tool for a primary insurer to the extent that it can find a reinsurer willing to take on the business. If a primary insurer does not have sound pricing, strong controls against external and internal abuse, and well-managed operations, it is unlikely that it will find an institution willing to provide reinsurance coverage. This is especially true given that most reinsurance relationships are long-term arrangements based on goodwill and trust between the insurers.

INSURANCE REGULATION

[51] The other type of reinsurance is *facultative reinsurance*, where an insurer wants to insure a single risk that is beyond its coverage capacity and shops around for a reinsurer to cover that specific excess risk.
[52] From Redja (1998) and Grant (1996).

In most developed countries, government decisions affect all aspects of an insurer's operations. Governments influence insurers by enacting insurance legislation and / or by establishing a regulatory body to oversee the activities of the insurance industry. Insurance regulations and legislation in the United States focuses on five areas:[53]

- *Formation and Licensing of Insurers:* Allowing influence over the type of products an insurer will provide (e.g., life vs. health), the quality of the initial financial and management base, etc.

- *Financial Status:* Setting standards for financial performance and limitations on the riskiness of an insurer's portfolio.

- *Rate Setting:* Providing protection against discriminatory pricing, controls over changes in premiums.

- *Policy Forms:* Ensuring insurance contracts are clear and not misleading.

- *Sales Practices:* Establishing standards regarding the product training and education received by sales agents, advertising standards and deceptive sales practices. Often results in the licensing of sales agents.

In other countries where government regulation may not exist in all of these areas, associations or the insurers themselves often develop standards for self-regulation. The primary purpose of these regulations and standards is to protect the public interest. For example, licensing and financial regulations are intended to maintain insurers' solvency and thereby protect consumers from buying insurance from a company that may be out of business when they need to make a claim. Rate setting, policy form and sales practice regulations are intended to protect the consumer against misleading or deceiving sales tactics.

In practice, regulations designed to protect the public interest have, in a number of cases, hindered the development of insurance providers intent on serving low-income communities. The most often cited difficulty is minimum capital requirements. Governments and regulators typically set a minimum amount of capital that an insurer must maintain as a reserve to cover unexpected losses. These minimums are clearly in place to ensure that, in the event of substantial unexpected losses, insurers can meet their claims obligations. However the minimum requirements are generally set based on the characteristics of large, established insurers serving middle or high-income households. These standards are often prohibitively high for insurers intent on serving the low-income market, given the relatively small size of the policies.

In situations where regulation has been a roadblock for insurers interested in serving low-income communities, several organizations have devised strategies to circumvent such regulation/legislation. The AAC/MIS and CUNA Mutual Group (CUNA) have

[53] Adapted from Redja (1998).

experience in helping credit unions and cooperatives in Latin America and Africa to offer life, life savings and other forms of insurance without having to meet government-mandated capital requirements.

By structuring the insurance as a "member benefit," the affiliates of the AAC/MIS and partners of CUNA provide their customers with all of the benefits of an insurance product without complying with regulations and legislation directed at larger insurance providers (see below for further detail).[54] Although these structures exempt an organization from certain formal regulations, they do not replace the need for measures to protect the organization against unexpected losses. In situations where reserve requirements are not regulated, insurance providers need to develop their own capital adequacy standards that protect them against the risk of unexpected losses and reflect the context of the environment in which they operate.

Member Benefits[55]

The life-savings insurance offered by many credit unions is a good example of how financial institutions can provide insurance as a member benefit. Credit union members automatically receive life insurance when they make a deposit. As explained in Box 9 above, if a member dies, their family receives twice the amount on deposit. What makes this a member benefit, as opposed to an insurance product in the consideration of a regulator, is the lack of a formal insurance contract between the credit union and its members. Although the credit union (CU) makes premium payments to and receives compensation for claims settlements from the insurer, the insurance relationship between the CU and its members is entirely informal. The CU funds the premium payments from other revenue sources. For example, prior to offering the insurance service, CU management may decide to fund premium payments through a small increase in loan interest rates, or through a slight decrease in savings interest rates. In this way, the insurance is less of a separate product and more of a benefit for being a member of the credit union.

The advantage of this system is that it is easy to establish. Credit unions have employed this as an effective strategy for starting-up an insurer. Gradually, the organization learns the basics of providing insurance, develops claims histories, and builds a capital base that can then be used to offer more formalized insurance. The key concern with this approach is that the institution assures itself of sufficient revenue to cover claims and avoids the temptation to increase the size of the benefit without calculating the future cost in terms of increased claims.

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[54] Interviews with Ted Weihe, AAC/MIS; Dory Christensen, Assistant VP, International Markets/International Enterprise, CUNA Mutual Group.

[55] Readers interested in exploring this topic in more detail should contact either CUNA Mutual Group, www.cunamutual.com, or the International Cooperatives and Mutual Insurers Federation (ICMIF) at www.icmif.org.

Banks as Insurers

In North America, legislation maintains a separation between insurers and banks. A single organization cannot provide both insurance and deposit-taking (savings) services.[56] This legislation reflects government concern over the danger of exposing people's savings to insurance risk. It attempts to protect the public against the risk that an integrated bank-insurer may use the funds its clients have invested in one side of the business to support the other if it is under performing. For example, an insurer whose reserves are depleted from excessive losses, if it had access to a bank's savings deposits, might use some of its clients' savings to replenish these reserves. If the insurer continues to experience losses, eventually the savings will be depleted and the insurer will be forced to default on its obligations to both policyholders and depositors. By mandating the separation of banks and insurers, North American legislators provide depositors and policyholders the assurance that they will not lose their savings or insurance benefits as a result of the poor performance of the other half of their provider's business.

In the absence of legislation to the contrary, deposit-taking and insurance provision can be combined in a single organization, provided that separate accounts are used for the different sides of the business and strong controls are in place to prevent misuse of clients' deposits. The banks in most European countries, where legislation separating banks and insurers does not exist, are examples of organizations using internal protections to avoid misuse of clients' deposits. In this way, these providers are able to enjoy the advantages of using an integrated distribution channel to provide multiple services.

[56] Recent developments in the United States, such as the Citigroup – Travelers Insurance merger suggest that this legislation in the US may be repealed within the next 5 years.

CHAPTER FIVE
CONCLUSION

This study has clarified where low-income households are most vulnerable to risks and where insurance can contribute to changing this situation. In addition, this paper has identified a number of the technical issues to be considered in offering insurance. By itself, this is a valuable resource for microfinance practitioners who are currently offering or embarking on the development of an insurance product.

To fully understand the issues, challenges and opportunities in applying these concepts in low-income communities, it is necessary to review the experiences of microfinance and other institutions that are already serving this market. This evidence is presented in Part II of this report.

As an introduction to Part II, it is worthwhile to outline the questions that need to be asked of insurance providers. The overall question is what are the obstacles to providing insurance to low-income households, and what innovations exist to overcome these obstacles. This is addressed from the following angles:

- *Understanding and Cultivating Demand*
  - — Which risks do clients consider as the highest priority to protect against? Do they want assistance in dealing with these risks?
  - — Are they willing and able to pay for insurance protection? How much are they capable of paying, and what frequency and mechanism for payment is most appropriate?
  - — How should an insurance provider educate the prospective market regarding the costs and benefits of purchasing an insurance policy?

- *Understanding the Insurance Landscape*
  - — What requirements do local government regulations impose on insurers?
  - — What informal insurance groups or organizations are already in place? Is there opportunity for collaboration or integration with these groups? Are there existing groups or associations within low-income communities through which insurance could be offered?

- *Organizational Capabilities*
  - — What role is a microfinance institution best suited to play? Distribution agent for an existing insurer? Complete insurance provider? Somewhere in between?
  - — How can the insurance expertise and financing required to develop and offer an insurance product be obtained? Through partnership? Through on-going training and skills development? Through reinsurance?
  - — When is it appropriate for a microfinance institution to consider offering insurance? Do small MFIs have enough clients to justify offering insurance? Should subsidized or young MFIs offer insurance?

- *Product Design*
  - — How will moral hazard and adverse selection be controlled? Will established controls succeed in a low-income context?
  - — How will the information required to determine pricing be obtained? What margin for error should be incorporated into prices?
  - — Can sufficiently large risk pools be developed?
  - — How will products cope with high inflation environments?
  - — Can products be designed with sufficient flexibility to accommodate low-income households' irregular income flows?
  - — What lessons from microfinance innovations can be applied to micro-insurance?

- *Distribution Channels*
  - — How effectively can insurance be integrated with the distribution of other products and services, both financial and non-financial?
  - — What mechanisms can be developed to reduce transaction costs for both the insurer and the policyholder?
  - — Can the historical example from developed insurance markets of insurance distribution through mobile agents be successfully adapted to a low-income market?
  - — How can mutually beneficial partnerships between traditional insurers and MFIs be developed?

- *Financing*
  - — What options are available for obtaining or creating reinsurance?
  - — Who would be interested in investing in micro-insurance services?
  - — Does micro-insurance have to be subsidized or can low-income policyholders pay the full costs of insurance?

These questions and more are explored in Part II of this study based on the experiences of MFIs that offer insurance. Their experience suggests that complete answers to most of these questions are not yet available. With the exception of life insurance that is linked to the outstanding balance of a loan, MFIs are very new to the world of insurance. A significant amount of experimentation, innovation, and continued monitoring will be required before there are satisfactory answers to most of these questions.

FURTHER READING/RESOURCES

A substantial volume of literature has been written on the topic of the risks facing low-income communities. As mentioned in the text, Morduch (1998) and Zeller (1999) provide good summaries of the latest work in this area.

From a different perspective, recent participatory assessments of the poor conducted by the World Bank for the upcoming World Development Report 2000/01 can serve as a useful source for understanding the needs of the poor. Moreover, the participatory process used by the researchers could be adapted by institutions interested in collecting more specific information regarding households' risk management needs. See http://www.worldbank.org/poverty/wdrpoverty/conspoor/global.htm#Summary for electronic copies of these publications or, alternatively, contact Patti Petesch, PRMPO, The World Bank, MC4-590, 1818 H Street, NW, Washington, D.C. 20433; Phone: 202-473-8754; Email: ppetesch@worldbank.org.

A similarly substantial volume of literature has been written on low-income households' informal risk management strategies. Rutherford (1996) provides an excellent summary of the various informal financial services arrangements that he has encountered in India and Bangladesh, many of which provide a measure of risk management.

According to Rutherford, for more information on ROSCAS and savings clubs, "the original essay on ROSCAs by Shirley Adenar, called *The Comparative Study of Rotating Credit Associations* was published in the Journal of the Royal Anthropological Institute, London, 1964, volume XCIV, but is reprinted in *Money-Go-Rounds*, [edited by Shirley Ardener and Sandra Burman, BERG, Oxford and Washington DC, 1995]. F.J.A. (Fritz) Bouman's essay, *The ROSCA. Financial Technology of an Informal Savings and Credit Institution in Developing Countries* is another classic. It came out in Savings and Development, volume 3 for 1979. A more recent article of his is *Rotating And Accumulating Savings and Credit Associations: A Development Perspective* in World Development, Volume 23, No 3 1995. Robert Christie has studied ROSCAs and is happy to correspond with others about them - his email address is R.Christie@isu.usyd.edu.au."[57]

Manfred Zeller, Imran Matin, David Hulme and Stuart Rutherford are all proponents of risk-management through flexible credit and savings products. Rutherford's institution Safesave provides an on-going experiment into the capabilities and limitations of this approach. Updates on Safesave can found on its webpage, www.drik.net/safesave.

Those interested in learning more about the principles of insurance provision from a developed market perspective should consider the publications and courses developed by LOMA in the United States. Their catalogue and web site detail the full range of material

[57] Rutherford (1999)

offered. These materials are, unfortunately, often quite expensive for non-members. LOMA can be contacted at:

2300 Windy Ridge Parkway, Suite 600, Atlanta, GA 30339 USA
Tel: 770-984-6434, Fax: 770-984-6420, Email: **intl@loma.org** ,www.loma.org

A variety of institutions are exploring the concept of insurance specifically for low-income communities. Most focus on a specific type of insurance.

For term, permanent and endowment life insurance, the global credit union network is a good place to start. The International Cooperative and Mutual Insurers' Federation (ICMIF) is a network of over 100 cooperative or mutual insurers around the world. They provide technical assistance and research for their members. They are also a good starting point for those looking to learn from the experiences of credit unions and cooperatives. Contact information for the ICMIF is as follows:

PO Box 21, Altrincham, Cheshire, UK, WA14 4PD
Tel: (44) 161 929 5090, Fax: (44) 161 929 5163, Email: icmif@icmif.org, www.icmif.org

ICMIF members are also a good source of experience and learning about providing property insurance in lower-income markets.

Two UN-affiliated organizations are good sources of information on health insurance in low-income communities. The UNCTAD (contact Zoraa Amijee at UNCTAD headquarters in Geneva, zoraa.amijee@unctad.org) is currently working with the ICMIF to develop health insurance programs in the Philippines. The International Labour Organization (ILO) also has significant experience in this area. Through their STEP (Strategies and Tools against social Exclusion and Poverty) program, the ILO has been pushing the state of the practice in health insurance in both Africa and, more recently, Latin America. Key contacts at STEP are the head of the unit in Geneva, Christian Jacquier (jacquier@ilo.org), the head of the Africa office, Christine Bockstal (chrisboc@telecomplus.sn) and the 'originator' of the term "micro-insurance" David Dror (dror@ilo.org).

Other institutions involved in the health insurance area include: the Centre International de Développement y de Recherche (CIDR) in Autreche, France (contact Guillaume Debaig, cidr@compuserve.com); the German development agency, GTZ, in the Philippines; and Freedom From Hunger (contact Peggy Roark, proark@freefromhunger.org) which is in the process of developing a health insurance product in Burkina Faso.

Part II of this report provides further detail on the various insurance products currently being offered by MFIs and other organizations.

For further references on the success of group insurance in reducing costs to increase accessibility by low-income populations see studies by The Commonwealth Fund, http://www.cmwf.org/programs/health_care/commprs.asp and The Urban Institute, http://www.urban.org/pubs/hinsure/insure.htm

REFERENCES

Publications Cited

1. Alderman and Paxson. (1994). *"Do the Poor Insure?" A Synthesis of Literature on Risk and Consumption in Developing Countries*. in Bacha (ed.) *Economics in a Changing World: Vol. 4: Development, Trade and the Environment*. Macmillan Press, London, England.
2. Atim. (1998). *The Contribution of Mutual Health Organizations to Financing, Delivery, and Access to Health Care: Synthesis of Research in Nine West and Central African Countries.* Technical Report No. 18. Bethesda, MD: Partnerships for Health Reform Project, Abt Associates Inc.
3. Bernstein. (1996). *Against the Gods: The Remarkable Story of Risk*. John Wiley and Sons, New York, NY, USA.
4. Binswanger and Rosenzweig. (1993). *Wealth, Weather Risk and the Composition and Profitability of Agricultural Investments.* Economic Journal, Vol. 103, January, pp. 56-78.
5. Cowls. (1970). *A Century of Mutuality.* Clarica Life Insurance Company. Waterloo, Canada
6. Cox and Jimenez. (1992). *Social Security and Private Transfers in Developing Countries: The Case of Peru*. World Bank Economic Review, Vol. 6 no. 1, pp. 155-169.
7. Debaig. (1999) *Report on the "Community Based Health Insurance Regional Conference."* Centre International de Développement y de Recherche, Paris, France.
8. Diagne, Zeller and Sharma. (1998). *Determinants of Household Access to and Participation in Formal and Informal Credit Markets in Malawi and Bangladesh*. Paper presented at the Annual Meeting of the American Economics Association, Chicago, Illinois, January 3–5, 1998. Forthcoming as Discussion paper, Food Consumption and Nutrition Division, IFPRI, Washington, D.C.
9. Dror and Jacquier. (1999). *Micro-Insurance: Extending Health Insurance to the Excluded*. International Social Security Review, Vol. 52, no. 1.
10. Eswaran and Kotwal. (1985). *Implications of Credit Constraints for Risk Behavior in Less-Developed Countries*. Oxford Economic Papers, Vol. 42. Oxford, UK
11. Frenzer. (1994). *Insurance Investing*. Paper presented at AAC/MIS Conference # 2, October 24, 1994.
12. Gertler. (1999). *Insuring the Economic Costs of Illness.* Paper presented at the Conference on Social Protection and Poverty, Poverty and Inequality Advisory Unit, Sustainable Development Department, Inter-American Development Bank. Washington, D.C.
13. Gibson. (1999). *Introduction to The Home Service Distribution System*. Life Office Management Association (LOMA), Inc. United States.

14. Grant. (1996). *Reinsurance for Small Insurers.* Paper presented at AAC/MIS Annual Conference, San José, Costa Rica, November, 1996.

15. Grozel and Amijee. (1999). *Micro-banks Project – Philippines*. UNCTAD Mission Report, April 1999.

16. Hazell. (1992). *The Appropriate Role of Agricultural Insurance in Developing Countries*. Journal of International Development, Vol. 4 , no. 6, pp. 567-582

17. ICMIF. (1998). *Member Directory 1998: A Global Reach for Local Strength, Edition Four*. ICMIF, Cheshire, UK

18. Jacoby and Skoufias. (1998). *Testing Theories of Consumption Behavior using Information on Aggregate Shocks: Income Seasonality and Rainfall in Rural India*. American Journal of Agricultural Economics, Vol. 80, pp. 1-14.

19. Lee. (1997). *What Rural Bolivian Micro Finance Programs can Learn from Participants about Household Strategies*. Unpublished MSc Thesis, University of Guelph: Guelph, ON, Canada

20. Life Insurers Conference. (1994). *The Importance and Value of Small Amount Life Insurance (SALI).* Position paper by the Life Insurers' Conference. LOMA, Atlanta, Georgia, USA.

21. Matin, Hulme and Rutherford. (1999). *Financial Services for the Poor and Poorest: Deepening Understanding to Improve Provision.* Forthcoming.

22. Morduch. (1995). *Income Smoothing and Consumption Smoothing*. Journal of Economic Perspectives, Vol. 9 no. 3, pp. 103-114 .

23. Morduch. (1998). *Between the Market and State: Can Informal Insurance Patch the Safety Net?*. Forthcoming World Bank Research Observer.

24. Mosely and Krishnamurthy. (1995). *Can Crop Insurance Work? The Case of India.* Journal of Development Studies, Vol. 31, February. London, England

25. Narayan , Chambers, Kaul Shah and Petesch. (1999). *Global Synthesis Summary*. Prepared for the Global Synthesis Workshop: Consultations with the Poor, World Bank, Washington, DC.

26. Platteau and Abraham. (1987). *An Inquiry into Quasi-Credit Contracts: The Role of Reciprocal Credit and Interlinked Deals in Small-Scale Fishing Communities*. Journal of Development Studies, Vol. 23, pp. 461-490. London, England.

27. Platteau. (1997). *Mutual Insurance as an Elusive Concept in Traditional Rural Communities*. Journal of Development Studies vol. 33 no. 6. London, England.

28. Redja. (1998). *Principles of Risk Management and Insurance.* Addison-Wesley. New York.

29. Rosenzweig and Wolpin. (1983). *Credit Market Constraints, Consumption Smoothing, and the Accumulation of Durable Production Assets in Low-Income Countries: Investments in Bullocks in India*. Journal of Political Economy, Vol. 101 no. 2, pp. 213-224.

30. Rosenzweig. (1988). *Risk, Implicit Contracts and the Family in Rural Areas of Low-Income Countries*. The Economic Journal, Vol. 98, pp. 1148-1170.

31. Rutherford. (Nov. 1996). *A Critical Typology of Financial Services for the Poor.* ACTIONAID Working Paper 1. London, UK

32. Rutherford. (1999). *The Poor and Their Money: An Essay About Financial Services for Poor People.* Forthcoming from the Department of International Development. New Dehli, India.

33. Shaw and Griffen. (1995). *Health Insurance in Sub-Saharan Africa: Aims, Findings, Policy Implications.* In Shaw and Ainsworth (eds.). *Financing Health Services through User Fees and Insurance: Case Studies from Sub-Saharan Africa*. World Bank Discussion Paper 294, Africa Technical Department Series. The World Bank, Washington D.C.

34. Udry. (1990). *Credit Markets in Northern Nigeria: Credit as Insurance in a Rural Economy.* World Bank Economic Review, Vol. 4, September, pp. 251-271.

35. Walker and Jodha. (1986) *How Small Farm Households Adapt to Risk*. In Hazell, Pomareda and Valdes (eds.). *Crop Insurance For Agricultural Development: Issues and Experience*. Johns Hopkins University Press, Baltimore, USA, pp 17-34.

36. Weihe *et al*. (1990) *Insuring Development Through Popular-Based Insurance.* Americas Association of Cooperatives and Mutual Insurance Societies formerly the North American Association of the International Cooperative Insurance Federation. Powell, Ohio, USA.

37. Weihe *et al*. (1997). *Impact of Group-Based Insurance Programs in Colombia, Bolivia and Guatemala*. AAC/MIS, Powell, Ohio, USA.

38. Zeller, Manfred. (1999) *On the Safety Net Role of Micro-finance for Income and Consumption Smoothing*. Paper presented at the Conference on Social Protection and Poverty, Poverty and Inequality Advisory Unit, Sustainable Development Department, Inter-American Development Bank. Washington, D.C.

List of Interviews

1. Email interviews with Rosemary, Black Sash, Grahamstown Office, South Africa. May 10-24, 1999. sashght@buffalo.ru.ac.za

2. Telephone Interview with Bruce Dalzell, Executive Director, Life Insurers Council, Atlanta, GA. July, 1999.

3. Telephone interview with Dory Christensen, Assistant VP, International Markets/ International Enterprise, CUNA Mutual Group, Madison, WI. August, 1999

4. Telephone and E-mail interviews with Michael McCord, Regional Director, FINCA Africa. August-October, 1999.

5. Telephone and E-mail interviews with Natalie Gons, World Council of Credit Unions, Madison, WI. July, 1999.

6. Telephone interviews with Neil Haynes, VP Mergers and Acquisitions, Clarica Life Insurance Company, Waterloo, Canada. May-August, 1999.

7. Telephone and E-mail interviews with Ted Weihe, AAC/MIS. August-October, 1999.

ANNEX A

PERFORMANCE TRACKING AND MEASUREMENT

Boxes 1 and 2 below provide examples of the line items included on an insurers income statement and balance sheet. The line items shown are aggregate accounts (a more detailed breakdown of results would be used for operational purpose) to illustrate several important elements of an insurer's financial statements. The discussion that follows defines these terms and clarifies how a generic insurer's income, expenses, assets and liabilities are tracked.

Box 1

Sample Income Statement

Gross Written Premium	A	
Reinsurance Ceded	B	
Net Written Premium	A-B	
Change in Premium Reserve	C	
Net Earned Premium	A-B-C	1
Net Losses Incurred	D	
Net Underwriting Expenses	E	
Total Underwriting Expense	D+E	2
Net Underwriting Profit	1 - 2	3
Net Investment Revenue	F	
Net Other Expenses	G	
Net Investment Profit	F-G	4
Taxes	H	
Dividends	I	
Net Income	**4 – H - I**	

Box 2

Sample Balance Sheet

Total Assets	A
Technical Reserves	B
Other Liabilities	C
Total Liabilities	B+C
Policyholders' Surplus	D

A = B + C + D

In calculating revenue for an insurer, gross written premiums (GWP) is the starting point. Gross Written Premiums represent the revenue that an insurer would have earned if it had collected a full year's worth of premiums on all policies sold during a year. Although insurers do not actually receive all of this revenue, recording a full year's revenue on all policies sold improves the insurers ability to track and assess year over year changes in premium income. For example, two insurers that each sell 100 policies with a $20 annual premium in a year would record the same Gross Written Premium. Their revenues could, however, be quite different depending on when the policies were sold during the year and how much of the $20 was collected from each policyholder.

From GWP two deductions are made to arrive at Net Earned Premium—the actual cash that an insurer has received from premium payments during the year. Reinsurance ceded deducts

the portion of premiums associated with risks that have been transferred to a reinsurer. Change in Premium reserve deducts the portion of written premiums that have not actually been collected or earned at the time the income statement is prepared. This deduction will generally be larger for fast-growing insurers that have added a substantial number of new contracts during the year.

From Net Earned Premium, Net Losses Incurred and Net Underwriting Costs are deducted to determine Net Underwriting Profit (NUP). Net Losses Incurred includes the costs of all claims settlements paid, including costs to investigate and settle losses, while net Underwriting Costs includes all expenses, including net commissions, salaries and advertising costs, which are attributable to the production of net premiums written. NUP is not an insurer's total profit, but it is an assessment of how well an insurer is managing their core insurance operations. If NUP is negative, claims losses or expenses have exceeded the expectations that the insurer used in developing its prices. In this case, insurers can continue generating positive net income if its net investment profit is sufficiently large to offset its underwriting losses. If NUP remains negative consistently, an insurer will need to re-price their premiums to more accurately reflect these higher costs.

An insurer's investment results are kept separate from its underwriting results in order to make clear the true source of any profits (losses). Net Investment Revenue (NIR) is the interest and capital gains earned by investing the initial capital set aside as a reserve and any annual excesses of premiums collected over expenses and distributions to members or shareholders. Expenses relating to the generation of NIR are deducted to determine Net Investment Profit.

The sum of Net Underwriting Profit and Net Investment Profit is an insurer's Net Income Before Taxes and Dividends to policyholders or shareholders (NIBTD). Once these two items are deducted from NIBTD, any remaining profit is transferred to the Policyholders' Surplus account and is available to the insurer to increase its loss reserves or to invest in growing the business.

In addition to the policyholder's surplus account, the other aspect of an insurer's balance sheet that merits discussion is the technical reserves account. These reserves represent an insurer's protection against unforeseen or unexpected losses. In assessing the adequacy of an insurer's reserves and surplus, the rating agency A.M. Best considers the risks that insurers face and how exposed an insurer is to adverse fluctuations in these areas. The risks considered are: underwriting risk, investment return risk, and business risk. For example, an institution that sets premiums too low, maintains its reserves in a low-interest bank account or is poorly managed will need to maintain greater reserves in order to protect against unforeseen losses. The appropriate methods for calculating technical reserves is generally specified by insurance regulators. Rating agencies such as A.M. Best and Standard & Poors are also good sources for reserve-calculation methodologies.

Using the results from an insurer's income statement and balance sheet a number of ratios and indicators can be calculated to assess its performance. A.M. Best groups these ratios and indicators into three areas: profitability, leverage, and liquidity. Profitability metrics assess

the ability of an insurer to generate revenues greater than its costs. Leverage metrics assess the degree to which the value of an insurer's policies outstanding exceed its reserves given its level of institutional risk. Liquidity metrics assess an insurer's ability to generate cash on short-notice. Some of the key ratios used by A.M. Best to determine its rating for an insurance company are described in Tables 1 to 3 in Annex B. [1]

[1] From Best's Rating System and Procedures, www.ambest.com

ANNEX B

PERFORMANCE MEASUREMENT—RATIOS AND INDICATORS

Table 1: A.M. Best Standard Financial Ratios and Indicators for Insurance Providers—Profitability

Ratio/ Indicator	Calculation	Description	Expected Range for Life/Health Insurers	Expected Range for Property/ Casualty Insurers
Profitability				
Net Incurred Losses to NPW	Net Incurred Losses / Net Premiums Written	▪ Total claims or benefits paid as a percentage of Net Premiums Written	45 – 70%	
Net Underwriting Expenses to NPW	Net Underwriting Expenses / Net Premiums Written	▪ Total expenses associated with the production of net premiums written as a percentage of Net Premiums Written	30 – 55 %	
Loss Ratio	Net Incurred Losses / Net Earned Premiums	▪ Cost of claims settlements relative to underwriting income		
Expense Ratio	Net Underwriting Expenses / Net Earned Premiums	▪ Cost of underwriting operations relative to underwriting income		
Dividend Ratio	Policyholder or Shareholder dividends / Net Earned Premiums	▪ Cost of payments to owners relative to underwriting income		
Combined Ratio	Sum of Loss Ratio, Expense Ratio and Dividend Ratio	▪ Cost of underwriting operations relative to underwriting income	A combined ratio of less than 1 indicates a profitable underwriting operation	
Net Income to Total assets	Net Income / Prior Year Total Assets	▪ Measures insurance earnings relative to a company's asset base. Provides an assessment of how efficiently a company utilizes their assets	0.4% - 1.5%	
Return on Equity	Net Income / Prior Year Policyholder Surplus	▪ Measures insurance earnings in relation to a company's capital base. Provides an assessment of how efficiently a company utilizes their capital	8% - 14%	

Table 2: A.M. Best Standard Financial Ratios and Indicators for Insurance Providers—Leverage

Ratio/ Indicator	Calculation	Description	Expected Range for Life/Health Insurers	Expected Range for Property/ Casualty Insurers
Leverage				
Capital & Surplus to Liabilities	Policyholders Surplus/Total Liabilities	▪ Measures the relationship of capital and surplus to the company's unpaid obligations after reinsurance assumed and ceded. It reflects the extent to which a company has leveraged their capital base	4% - 12%	
NPW to Capital	Net Premiums Written to Capital	▪ Reflects the leverage on its capital, after reinsurance ceded and assumed, of a company's current volume of net business. This ratio measures a company's exposure to pricing errors in its current book of business	1.3 – 5.5	
Change in NPW	(Current Year NPW – Prior Year NPW)/ Prior Year NPW	▪ Represents the annual percentage change in net premiums written. Excessively high growth rates may indicate that a company is over-extending its capital base	5% - 15%	
Capital Adequacy Ratio	Calculation varies depending on the type of insurance offered, the regulatory regime and internal institution standards	▪ The ratio of actual technical reserves and surplus to required reserves. In general, an insurer's portfolio of risks is classified according to the level of risk. For each risk level, a corresponding reserve requirement is established. The total underwriting reserve requirement is the sum of required reserves for each risk level. This is then adjusted to reflect the insurer's exposure to non-underwriting risks such as investment returns and business risks. A ratio of less than 100 indicates that actual reserves are less than required. A ratio less than 70 is often cause for government intervention. Conservative ratios for small insurers are often greater than 200		

Table 3: A.M. Best Standard Financial Ratios and Indicators for Insurance Providers—Liquidity

Ratio/ Indicator	Calculation	Description	Expected Range for Life/Health Insurers	Expected Range for Property/ Casualty Insurers
Liquidity				
Operating Cash Flow	All Cash Inflows – All Cash Outflows	▪ Measures the supply of cash a company generates annually to fund investments, unexpected claims losses or other cash requirements	Varies	Varies
Quick Liquidity	Quick Assets/Liabilities	▪ Quick assets include 80% of short-term investments such as cash, bonds maturing in < 1 year, etc. This ratio measures a company's ability to meet its maturing obligations without requiring borrowing or the sale of long-term investments	10% - 20%	
Current Liquidity	Invested Assets/Liabilities	▪ Measures the proportion of liabilities covered by non-fixed assets (i.e., invested assets excludes property, buildings and fixtures)	95% - 120%	
Investment Portfolio Quality	Investments in a Single Asset Type/Policyholders' Surplus	▪ Measures risk in a company's investment portfolio. This ratio is generally calculated for risky classes of assets such as real estate. If high-risk investments represent a substantial proportion of paid in capital, a decline in the value of these investments may jeopardize a company's ability to meet claims obligations	Varies	Varies

ANNEX C

GLOSSARY OF COMMON INSURANCE TERMS

DEFINITIONS OF INSURANCE TERMINOLOGY NOT INCLUDED HERE CAN LIKELY BE FOUND AT EITHER: HTTP://WWW.UCALGARY.CA/MG/INRM/GLOSSARY/INDEX.HTM OR HTTP://INSURANCE.ABOUT.COM/BUSINESS/INDUSTRIES/INSURANCE/MSUBGLOSS.HTM

Acquisition Costs:	Costs incurred by an insurer or their agent in attracting customers. These costs typically include: sales force salaries and overhead, marketing and advertising costs and other costs incurred prior to when a prospect agrees to purchase a policy.
Adverse Selection:	Tendency of persons with a higher-than-average chance of loss to seek insurance at standard (average) rates, which, if not controlled by underwriting, results in higher-than-expected loss levels
Claim(s):	A request for payment of a loss which may come under the terms of an insurance contract.
Co-payments:	Mechanism, used by insurers to share risk with policyholders and reduce moral hazard, that establishes a formula for dividing the payment of losses between the insurer and the policyholder. For example, a co-payment arrangement might require a policyholder to pay 30% of all losses while the insurer covers the remainder.
Covariance:	Tendency for either i)many households to be affected by a risk at the same time or ii)several risks to consistently occur together (at the same time or under the same circumstances).
Coverage:	Scope of protection provided under a contract of insurance; any of several risks covered by a policy.
Deductible(s):	Mechanism, used by insurers to share risk with policyholders and reduce moral hazard, that establishes an amount which a policyholder agrees to pay, per claim or per accident, toward the total amount of an insured loss.
Distribution Channel:	Type of distributor used to deliver insurance policies to clients. Direct marketing and agents are two examples of different distribution channels
Distributor:	Institution that handles the sales and servicing of insurance policies, but does not necessarily 'produce' the products themselves.
Face Value:	Amount to be paid out by an insurance policy if either the insured event occurs or the policy matures (for endowment policies)

Home Service:	Form of insurance distribution system in which all aspects of insurance provision (marketing, sales, premium collections, claims verification and distribution) are performed by a roaming 'agent' who visits customers in their homes or place of work. Home service distribution was popular in North American and Western European countries in the early decades of this century.
Industrial Life Insurance:	One name for life insurance policies sold to middle and low-income customers in small policy amounts with weekly or monthly premium collection at the policyowner's home.
Institutional Risk:	Risks faced by insurer as a consequence of offering insurance. For example, insurers risk experiencing losses on their portfolio if claims or administration costs exceed expectations or if premium revenues fall below expected levels.
"Law of Large Numbers":	Concept that the greater the number of exposures, the more closely will actual results approach the probable results expected from an infinite number of exposures.
Loan Insurance:	Insurance coverage that repays the outstanding balance on loans in default beyond a specified period, regardless of the cause of default. Also called "credit insurance" but not to be confused with outstanding balance life insurance.
Moral Hazard:	Hazard arising from any nonphysical, personal characteristic of a risk that increases the possibility of loss or may intensify the severity of loss. For instance, bad habits, low integrity, poor financial standing.
Mutual Insurer:	Insurance company in which the ownership and control is vested in the policyholders, who elect a management team to conduct day-to-day operations.
Outstanding Balance Life Insurance:	Insurance coverage that repays the outstanding balance on loans in default due to death of the borrower. Occasionally, partial or complete disability coverage is also included.
Premium(s):	Sum paid by a policyholder to keep an insurance policy in force.
Protection:	Ability of an insurance product to provide compensation for losses incurred. Protection can be full or partial.
Provider:	Institution that performs the underwriting and claims management functions in the provision of insurance.
Rate-Making:	The process of estimating the expected costs involved in providing insurance coverage in order to set appropriate premium rates.

Risk Management:	Systematic process for the identification and evaluation of pure loss exposures faced by an organization or individual, and for the selection and implementation of the most appropriate techniques for treating such exposures.
Risk Pooling:	Spreading of losses incurred by a few over a larger group, so that in the process, group members' losses are limited to the average loss (premium payments) rather than the potentially larger actual losses.
Settlement:	Payment of the benefits specified in an insurance policy.
Underwriting:	Process of selecting risks for insurance and determining in what amounts and on what terms the insurance company will accept the risk.
Unit(s)	That which is being insured.