
I Emerging issues

I Current trends in microinsurance

Craig Churchill and Michael J. McCord

The authors wish to thank the following reviewers for their detailed and perspicacious comments: Doubell Chamberlain (Cenfri), Iddo Dror (Micro Insurance Academy), Veronique Faber (Microinsurance Network), Jeanna Holtz (ILO), Brandon Mathews (Zurich), Lisa Morgan (Milliman), Dirk Reinhard (Munich Re Foundation), Jim Roth (Leapfrog) and Rupalee Ruchismita (CIRM).

Microinsurance is developing at a breathtaking pace, with numerous innovations emerging to meet the challenge of providing insurance to low-income people. New products covering a variety of risks are being launched and distributed to poor households through an increasing diversity of channels. Entertaining consumer education tools are being used to create better-informed consumers. Insurance authorities are adapting their regulations to facilitate the expansion of insurance to the poor. In short, millions more low-income households now have access to better insurance cover.

To introduce this second volume of *Protecting the poor*, this chapter describes five trends that reflect the dramatically changing state of affairs for microinsurance:

1. The definition of microinsurance is becoming operational.
2. More low-income households are covered by insurance.
3. Stakeholders in microinsurance are becoming more diverse.
4. Providers are offering an expanding and varied range of products.
5. There is greater concern that insurance provides real value to the insured.

I.1

The definition of microinsurance is becoming operational

The first of the five trends is that the definition of microinsurance is becoming operational. In the first volume, microinsurance was defined as follows:

Microinsurance is the protection of low-income people against specific perils in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved. This definition is essentially the same as one might use for regular insurance except for the clearly prescribed target market: low-income people ... How poor do people have to be for their insurance protection to be considered micro? The answer varies by country, but generally microinsurance is for persons ignored by mainstream commercial and social insurance schemes, persons who have not had access to appropriate products.

Churchill, 2006, pp. 12-13.

While this is a sound conceptual definition, it is not sufficient. A clear distinction is necessary, for example, for an insurance company with a microinsurance department that needs to define the boundaries where that department's work starts and stops. Insurance supervisors also require operational definitions. For example, if policymakers create requirements for insurers to serve the poor, or propose incentives for insurers to go down-market, then they need a means of determining whether these objectives have been achieved.

There are four main ways to make the definition of microinsurance operational:

1. **Target group:** The original definition was a target-group approach, indicating that microinsurance was for low-income people. However, because it did not provide guidance on how to measure or determine whether the "low-income" group was actually being served, the definition could not be used effectively by insurers or regulators. It is not realistic to expect insurers to assess whether prospective policyholders are sufficiently poor to warrant microinsurance.¹
2. **Product definition:** The most common operational definition uses product parameters based on the assumption that placing a cap on the sum assured and/or premium will ensure that the product is relevant only for low-income households. As illustrated in Table 25.2, this approach is commonly used by regulatory authorities, and it is particularly relevant if their intention is to compel or entice existing insurers to go down-market. However, simply defining microinsurance on the basis of premium and benefit caps can be problematic if it inhibits innovation by restricting the insurer's options in product design. Furthermore, many products within the specified parameters are not intended for the target group, such as credit card or travel insurance with their relatively small premiums.
3. **Provider definition:** A third way to define microinsurance is based on the type of organization that can provide it. Apart from formal insurers, microinsurance could be provided by burial or friendly societies, mutuals, cooperatives and community-based organisations. This approach is used, for example, in the Philippines, where mutual benefit associations (MBAs) have lower capital and technical requirements and can provide a restricted range of products. However, definitions that focus exclusively on providers could hinder the expansion of microinsurance because a range of institutional arrangements are necessary to reach the vast unserved market.

¹ For some social protection programmes, such as Rashtriya Swasthya Bima Yojana (RSBY), a mass health scheme in India, a means-testing mechanism is used to determine whether households are vulnerable enough to be eligible for the government subsidy. To identify the households below the poverty line (BPL) who can access government assistance in India, a series of parameters are used, with different criteria for rural and urban areas. The survey to determine BPL eligibility uses various socioeconomic indicators such as the size of landholding, type of housing, access to water and sanitation, type of employment, and educational status.

4. **Distribution channel:** A fourth approach, sometimes used by insurance companies, is to define microinsurance by the intermediary involved. For example, if products are distributed by microfinance institutions (MFIs), low-cost retailers or other organizations that typically reach the low-income market, then they could be considered as microinsurance by the insurer.

All of these ways of defining microinsurance have advantages and disadvantages. Consequently, a mixed approach – looking at the concept of serving the low-income market, coupled with a quantitative product definition and allowance for provider and distribution types – may be most appropriate. For example, Allianz is piloting a microinsurance “stress test” that considers 12 parameters to assess if an insurance product qualifies as micro, which includes elements of the target group, product and distribution channel definitions.

Regardless of how one defines microinsurance, product design and access are key differentiators. The focus on simplicity and accessibility, and the efficiency of processes, separates microinsurance from traditional insurance. For example, insurance with a long application form, numerous exclusions, and other requirements may not qualify as microinsurance, even if the premiums are low and the product is intended for the low-income market.

Microinsurance should be defined in a manner that responds to the national or corporate objectives of regulators and insurers respectively, and thus the definitions will vary. Indeed, the trend is important not simply because the definition itself is becoming operational, but because insurers and policymakers are actually interested in putting it into practice in their operations. This indicates that they are taking this target group more seriously, and possibly creating incentives or special structures to protect the poor.

There is nothing magical about the term “microinsurance”. Popular insurance provided through financial cooperatives for many years could be called microinsurance where the members of those cooperatives are poor. The mass-market insurance delivered by insurers through affinity groups – such as the members of unions or the customers of retailers or utility companies – could qualify as well. Nevertheless, the term “microinsurance” continues to be used because it emphasizes the importance of understanding the needs, preferences and characteristics of this target group: the low-income household, the working poor and the under-served.

In this book, an inclusive definition is used because the primary concern is to ensure that low-income households can manage important risks more effectively. A market-based approach is relevant for some target groups, such as the working poor with small disposable incomes that insurers have not reached in the past, but it will not effectively reach the poorest of the poor.

As emphasized in Chapter 2, both market-led approaches and social protection initiatives are critical and complementary, and therefore, from a public policy perspective, they need to be considered holistically. One of the interesting trends in recent years is the increase in public-private partnerships (PPPs) and the willingness of policymakers to subsidize premiums for vulnerable households. Indeed, in some countries the boundary between market- and government-driven initiatives is becoming quite blurred, and both are necessary to ensure that vulnerable households have adequate risk protection.

1.2 More low-income households are covered by insurance

The second trend is that microinsurance is expanding dramatically, from 78 million low-income persons identified as having some cover in the 100 poorest countries in 2006 (Roth et al., 2007), to 135 million insured in 2009 (Lloyd's, 2009). Today, back-of-the-envelope estimates suggest that the sector is approaching 500 million risks covered, including the lives and health of low-income people, as well as protection for their crops, animals and other assets (*see Table 1.1*). This massive increase is in part attributable to expansion, and some markets are growing by leaps and bounds. Besides growth, a big boost comes from the inclusion of countries and schemes that were not identified or included in the previous studies for which a narrower definition of microinsurance had been used.²

Indeed, one of the main challenges in assessing growth stems from the first trend, the definition. Without a universal definition of microinsurance, it is difficult to tally the numbers, but estimates provide useful insights into how the sector is evolving (*see Table 1.1*). This section reviews regional differences and considers the primary drivers of growth.

Table 1.1

Estimated outreach of microinsurance: Millions of risks covered

	<i>Asia</i>	<i>Latin America</i>	<i>Africa</i>	<i>Total</i>
2006 ¹	66	8	4.5	78
2009 ²			14.7	
2011	350 to 400	45 to 50	18 to 24	<500

¹ Roth et al., 2007, 100 poorest countries only.

² Matul et al., 2010.

² For example, the 2006 study looked only at the poorest 100 countries and thus excluded figures from some significant microinsurance countries, such as Brazil, Mexico and South Africa.

1.2.1

Scale, growth and geography

In the 2006 study, 85 per cent of the insured were in Asia, 10 per cent in Latin America and a mere 5 per cent in Africa (Roth et al., 2007). While that distribution has not changed dramatically, different developments are contributing to the expansion in each region.

Asia

In the 2006 study, the scale of microinsurance in Asia was driven by 30 million persons covered in India – where the volume was boosted by regulatory requirements obliging insurers to serve this market – and 28 million in China, which was the result of a bundled product promoted by a single trade union.

Both of these microinsurance powerhouses have seen dramatic growth in the years since then. As mentioned in Chapter 20, one study estimated that by 2010, 300 million low-income persons were covered just under state-supported mass health insurance schemes in India. In addition, 163 million poor persons had life, agriculture or livestock insurance, often partly subsidized by the Government. Although the chapter considers the first number as overly optimistic, and it overlaps considerably with the second figure since many persons enrolled in the health schemes also have other types of insurance, it is still reasonable to estimate that 60 per cent of the persons covered by microinsurance around the world live in India.

Data from China are harder to come by, but perhaps another 40 million low-income persons have access to insurance cover there. For example, according to Qureshi and Reinhard (2011), over 11 million low-income persons are covered by China Life and 600 000 through the People's Insurance Company of China (PICC). The Government is actively encouraging microinsurance pilots by insurance companies that have expanded from 3.8 million insured lives in 2008 to more than 14 million in 2010.

However, growth and scale in Asia are not limited to the two most populous countries in the world. The Philippines provides an interesting example because of the diversity of approaches. Private insurers are active in the market, with Malayan Insurance Company expanding its outreach from 4.1 million to over 5 million low-income lives from 2007 to 2009 by distributing through pawnshops (*see Chapter 18*) and Country Bankers Life covering nearly one million persons. During that same period, MicroEnsure, a specialized broker, facilitated cover for 1.2 million lives (*see Chapter 23*) and PhilHealth's KaSAPI programme, the Government's social protection scheme for the informal economy, covered nearly 30 000 persons (Qureshi and Reinhard, 2011). However, the Center for Agriculture and Rural Development (CARD), an MBA, eclipsed them all, covering 7.0 million low-income persons.³

³ CARD data from August 2011 as reported on <http://cardbankph.com>.

Significant growth is also apparent in Bangladesh and Pakistan, while countries like Cambodia, Indonesia and Sri Lanka are beginning their journey and already have significant outreach. Overall, with roughly 350 to 400 million risks insured, Asia is spearheading microinsurance development, in part because of large and dense populations, interest from public and private insurers, willing aggregators or distribution channels, and, perhaps most importantly, active government involvement, for example through subsidies.

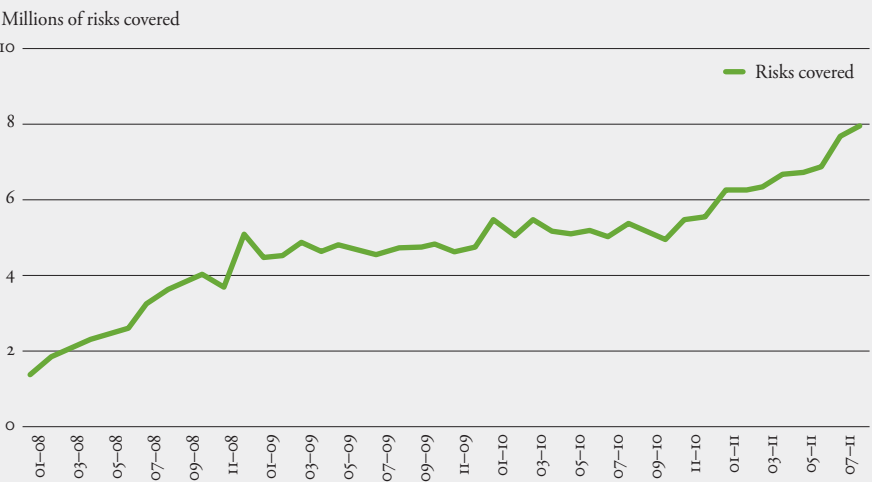
Latin America

In Latin America, the bulk of the almost 8 million insured lives in 2006 were in Peru and Colombia. Peru had primarily credit life cover, which reflected its mature microfinance industry, while the figures from Colombia suggested that microinsurance was essentially based around a single insurance company with a popular funeral policy.

Although growth data are generally unavailable, Colombia is an exception because the insurance association, Fasescolda, has been collecting microinsurance performance data for years. According to Fasescolda, microinsurance grew from less than 1.5 million risks covered in 2008 to nearly 8 million in July 2011 (see Figure 1.1). Initially, the growth was attributed to the group life and personal accident products distributed via public service companies, but in 2010–11 unemployment and home insurance products experienced strong take-up.

Figure 1.1

Microinsurance risks covered in Colombia



Source: Data provided by Fasescolda, Colombia, 2011.

Brazil and Mexico, which are huge markets, were not part of the original study. In an exhaustive analysis of microinsurance in Brazil, Bester et al. (2010) estimated that between 23 and 33 million low-income persons had cover, including funeral assistance schemes that were not regulated by the insurance authorities. Brazil is one of the fastest growing markets in the region, in part because of the proactive approach adopted by policymakers (*see Box 25.2*).

Indeed, several Latin American governments are actively promoting an enabling environment for microinsurance to facilitate the involvement of the private sector at the bottom of the pyramid (BoP). In this region, microinsurance is mainly a commercial endeavour. Growth stems from insurers moving down-market where there is less competition and more space for innovation. Volumes in Latin America, which are probably in the 45-to-50 million range, also come from a broader definition of microinsurance than in Asia, including upper poor and lower middle class.

Africa

More data are available for Africa following a survey in 2009 (Matul et al., 2010). The 2006 data, which did not include South Africa, identified 4.5 million lives covered mostly by basic credit-linked cover. The 2009 study identified 14.7 million people covered by microinsurance, of which 8.2 million were in South Africa. The growth outside South Africa during this period was nearly 13 per cent per annum, which was primarily attributed to the expansion of life cover in East Africa. The provision of microinsurance was led by commercial insurers in the East and South, and by health mutuals in the West.

The experience in South Africa, described in Box 1.1, is atypical for the continent. Perhaps the biggest outreach by an African insurer is Hollard, which is insuring four million low-income lives (Coydon and Molitor, 2011), mostly through funeral cover, mostly in South Africa. Sanlam Sky also covers more than one million persons through one delivery channel (*see Chapter 19*), and Old Mutual has one product line that insures nearly 0.5 million persons (*see Chapter 18*).

Although the continental figure may not exceed 24 million persons, microinsurance is picking up steam in several countries. Ethiopia, for example, has seen the number of low-income lives covered grow from almost nothing in 2006 to one million in the 2009 study and 2.5 million in 2011 (Zelege, 2011), primarily due to controversial regulations that allow microfinance institutions to carry insurance risk. In Ghana and Zimbabwe, microinsurance cover has soared through member benefit-type products offered by mobile phone companies covering millions of people. In Kenya, Smith et al. (2010) estimate that the

voluntary microinsurance market is 150 000 to 200 000 policyholders, while credit life cover increases the market to 650 000 to 700 000 persons covered, or more than 3 per cent of the Kenyan adult population.⁴

Box 1.1

Supply of and demand for microinsurance in South Africa

Microinsurance in South Africa is quite different from in the rest of the continent, in part because there is both a supply of and a demand for cover. Due to the high social and cultural value placed on dignified funerals, many low-income households have funeral insurance, even multiple policies. On the supply side, many South African insurers are sophisticated and entrepreneurial – the country has one of the highest penetration rates in the world (Swiss Re, 2011). The combination of sophisticated insurers and the demand from low-income households results in a growing and innovative market.

In South Africa, under the Financial Sector Charter that encouraged insurers to go down-market, the low-income market was defined as those earning a monthly income below approximately US\$400. The proportion of this population that has some form of risk cover (formal or informal) grew substantially from 33 per cent in 2006 to 38.5 per cent in 2010. This expansion was almost exclusively driven by an increase in formal funeral insurance. However, in absolute terms, the number of insured lives actually fell from just under 6.5 million in 2006 to just over 4.5 million in 2010. From 2006 to 2010, the population living below US\$400 per month fell from just over 19.5 million to less than 12 million people. Consequently, the drop in the number of persons covered in South Africa can be perceived as a positive development outcome.

Source: Adapted from Chamberlain et al., 2011.

1.2.2 Growth drivers, big and small

This section briefly reviews growth drivers for microinsurance, including the sources of major leaps forward and incremental improvements that lay the foundation for future growth.

⁴ Most of the outreach figures cited in this chapter are derived from self-reported data, usually by the risk carriers. However, these estimates for Kenya, and the data from South Africa in Box 1.1, are based on FinScope, which analyses financial service usage through large sample surveys and then applies the findings to the total population. This explains the discrepancy between the supply data cited in Matul et al. (2010) and the usage data in Box 1.1.

Major leaps

There are four factors that have contributed to this exponential expansion. The first and by far the most significant factor is government support, notably in Asia, which has fostered considerable growth in several ways:

- 1) subsidies, for example in India aimed at extending health insurance to workers in the informal economy and protecting low-income farmers from weather risks and livestock mortality;
- 2) public-private partnerships to apply private-sector expertise to implement government programmes;
- 3) mandates or targets for private-sector insurers (e.g. India, South Africa) to compel or entice them to reach under-served market segments; and
- 4) involvement of public-sector insurers such as the Life Insurance Company and Agriculture Insurance Company in India, and in China, PICC and China Life. While private-sector companies get attention for their innovative approaches, the public-sector companies are the ones achieving massive scale.

Indeed, without the leadership of the Indian Government, the growth story would be downgraded from extraordinary to only noteworthy.

The second driver is automatic enrolment or mandatory cover. Group policies are a common means to make significant step-like increases in scale, as they are easy to manage, reduce adverse selection and create a larger risk pool. Automatic microinsurance also includes cover given for free, as a member benefit or loyalty incentive, such as the basic term life by Compartamos in Mexico that covers nearly three million persons (Qureshi and Reinhard, 2011); and the personal accident cover provided by IFFCO-Tokio with the sale of fertilizer, covering 3.5 million Indian farmers (*Chapter 20*). Similarly in China, all members of a village can become automatically enrolled based on a decision by the village's leadership.

A recent incarnation of this approach has been adopted by mobile phone companies in Africa. In 2010, Trustco Mobile in Zimbabwe introduced life insurance as a loyalty incentive in partnership with EcoLife and First Mutual Life Assurance, and within one year it covered 1.6 million subscribers (Trustco Group, 2011). In Ghana, the specialized microinsurance intermediary MicroEnsure and a mobile phone company, Tigo, launched Tigo Family Care in 2011 and it is growing by more than 4 500 new lives insured per day (Gross, 2011b). With such products, it is not possible to know what percentage of those covered are poor, but given high levels of poverty and strong penetration of mobile phones into low-income markets, it is a fair bet that the vast majority qualify under the target-group definition of microinsurance.

A third key driver is the development of effective payment systems. Collecting microinsurance premiums can be a challenge, but emerging payment systems, such as M-PESA mobile money in Kenya, are substantial drivers of growth. In environments where e-money is not allowed, bill payment systems, point-of-sale (PoS) networks and banking correspondents give insurers access to large numbers of low-income households. For example, Aon Affinity, a subsidiary of Aon, reports covering 12 million mostly low-income people through mass-market schemes in six Latin American countries that access the client bases and use the payment systems of electricity, telephone and water companies (Baptistini, 2011).

The experience of Aon highlights the fourth driver, the capacity of multinational insurers and brokers to replicate their successes across jurisdictions. Brokers Marsh and Guy Carpenter are involved in government schemes in India covering tens of millions of low-income persons, and now they are taking those experiences to other jurisdictions (*see Chapter 23*). In 2010, Allianz covered six million low-income persons in eight countries (Coydon and Molitor, 2011), while Zurich had 2.3 million policies covering “emerging consumers” in seven countries, up from 1.8 million in 2009 (*see Chapter 19*).

Incremental improvements

The expansion of insurance to protect millions of low-income people is not only happening through major leaps forward, but also through incremental improvements that are gradually expanding microinsurance markets. Take-up continues to expand because of a confluence of factors that bolster both the supply of and demand for cover. Some incremental drivers include:

- The demonstration effect of positive claim payment experiences may have the greatest impact on helping people to appreciate and purchase microinsurance.
- Enabling regulatory environments for financial inclusion in several countries are removing barriers and even creating incentives for insurers to go down-market, while creating pathways for informal insurers to participate in the formal market (*see Chapter 25*). Unlike the government support described above, changes in the regulatory environment generally result in incremental improvements rather than major leaps forward, although there are some exceptions.
- Consumer education is reported to have helped people in some areas to better understand microinsurance and its role in household risk management (*see Chapter 14*).
- An improving value proposition for clients is resulting from insurers having greater exposure to and familiarity with the low-income market (*see Chapter 15*).

Like the fable of the tortoise and the hare, these slow and steady incremental improvements are not as captivating as the major leaps, but they are perhaps more important for fostering a culture of insurance in low-income markets and creating a firm foundation for future expansion. Ultimately these incremental improvements are signs that stakeholders in some countries are getting the fundamentals right – an enabling environment, an informed consumer and responsive insurers, which combine to produce a vibrant microinsurance market.

To avoid painting an overly rosy picture, it is useful to note that progress remains patchy. For every developing country that is experiencing significant growth, there are at least three or four that are stagnant or have limited microinsurance activity. The growth inhibitors are largely the converse of the enablers, including the lack of demand and limited capacity of the insurance industry to innovate. The process of creating a culture of insurance can take years, if not a generation.

1.3 Stakeholders in microinsurance are becoming more diverse

In the realms of public policy and international development, microinsurance is interesting because of its potential to support many different efforts. Few agencies have microinsurance departments. Instead, insurance is a sub-theme that cuts across various domains, including health and social protection, agricultural and livestock development, climate change and disaster management, microfinance, and small enterprise and cooperative development. As a result, more types of organization are becoming involved in microinsurance.

In the first volume, there was a preponderance of experiences that involved community-based mutual schemes and partnerships between insurance companies and MFIs. While these arrangements still account for a sizable portion of microinsurance outreach, they have been eclipsed by other institutional arrangements including public-private partnerships and alternative distribution channels. Furthermore, other players are also taking on important roles in creating the conditions for microinsurance to succeed, through proactive public policies, supportive regulations, or as meso-level enablers such as consultants, technology providers, funders and promoters.

This section examines the third trend – the greater involvement of a diversity of stakeholders – including: 1) insurers and reinsurers; 2) delivery channels; 3) governments; and 4) enablers.

1.3.1 Insurers and reinsurers

The insurance industry has microinsurance in its genes. From the risk-pooling by artisans' guilds and friendly societies to the introduction of industrial assurance

(see Box 1.2), insurers have recognized that the risk management needs of lower-income people could form the basis for a viable business model. Historically, approaches to providing the working poor with specialized cover have often characterized the industry. As formal employment expanded, and as people opened bank accounts, it became easier for insurers to provide cover more efficiently through employers and banks. The resultant efficiency, coupled with expanded social security programmes in many countries, moved insurers away from the labour-intensive collection of small premiums, and over time away from the low-income market. Today, microinsurance is a way for the industry to get back to its roots and become relevant again for the majority of the world's workers and their families.

Box 1.2

Origins of microinsurance

“Thus industrial assurance was ... simply life assurance adapted to the special circumstances and requirements of the masses of people. As compared with ‘ordinary’ life assurance its essential distinguishing feature is the manner in which premiums are paid, the modification having been introduced solely for the convenience of the small wage-earners for whom it is designed ... A household to which wages are brought home weekly frames its budget accordingly; it seldom has a reserve of income from which to make large payments at infrequent intervals, and still more seldom a bank account on which cheques can be drawn. If systematic contributions to assurance are to be kept up in these conditions, they must be related to the weekly or monthly pay envelope and collected when the money is in hand. Failing this, the odds are that the money will be used in other ways. The surplus remaining after provision for such essentials as rent, food and clothes is generally small, and the temptation to spend it on entertainment, luxuries or immediate pleasures is often too strong to be resisted without the moral support of the industrial assurance collector. These were the conditions of working-class thrift in 1854.”

Source: Morrah, 1955, p. 25.

In the contemporary version of microinsurance, there have been three primary risk takers: a) community-based and mutual insurers managing the insurance risk of their members; b) commercial insurers adjusting products and processes to cover the insurable risks of the low-income market; and c) governments with national social protection schemes. This section considers the first two, while the latter is covered in section 1.3.3.

Mutuals provide some key advantages in microinsurance especially related to their proximity to members, which permits a better understanding of their needs, facilitates claims settlement with better controls for fraud, and tends to engender significant trust from policyholders. They also appear to be particularly well suited to providing superior client value, as evidenced by an evaluation of microinsurance providers in three countries (*see Chapter 15*).

Even with these advantages, however, most mutuals do not appear to constitute an effective means to reach millions of low-income households as they are often limited by membership, governance, capacity, small capital reserves, and regulation. Although they are still common in some regions, they are being displaced in many countries by the entry of commercial insurers into the low-income market. Mutuals are also being forced to make adjustments from the other side as well, as more governments pursue universal health cover. For example, in India, health insurance was pioneered by several mutuals and community-based organizations, which now need to reposition themselves in view of the expansion of mass health cover from the Government (*see Chapter 20*).

This trend does not mean that mutuals are becoming irrelevant. Experience in India suggests that these schemes are effective innovators that can test new approaches and provide valuable lessons that others can take to scale. Some countries, particularly in Africa, have initiated efforts to achieve universal health cover, and the infrastructure that mutuals have built up over the years, for example in Ghana, Mali and Rwanda, serves as an important foundation to extend coverage to rural areas and workers in the informal economy (*see Box 2.1* and Kundra and Lago-marsino, 2008). Indeed some exceptional cases, such as CARD MBA in the Philippines and Cooperative Insurance Company (CIC) in Kenya (*see Chapter 18*), have shown that the cooperative model can be a basis for scale in microinsurance.

The big news is the tidal wave of commercial insurers entering the low-income market. A Microinsurance Network study shows that at least 33 of the world's largest 50 commercial insurance companies offer microinsurance, but many started recently. Of the 24 respondents that provided longitudinal data, only five had relevant products in 2000, and seven in 2005. The rest have started since then, clearly demonstrating that microinsurance is being offered by an increasing number of commercial companies, with perhaps more still to come (Coydon and Molitor, 2011). While they lack important advantages enjoyed by locally based mutuals, some have managed to compensate for their deficiencies through partnerships, technology and other means. This group of insurers is well positioned to achieve massive scale, although it remains to be seen whether their products will provide value to the poor.

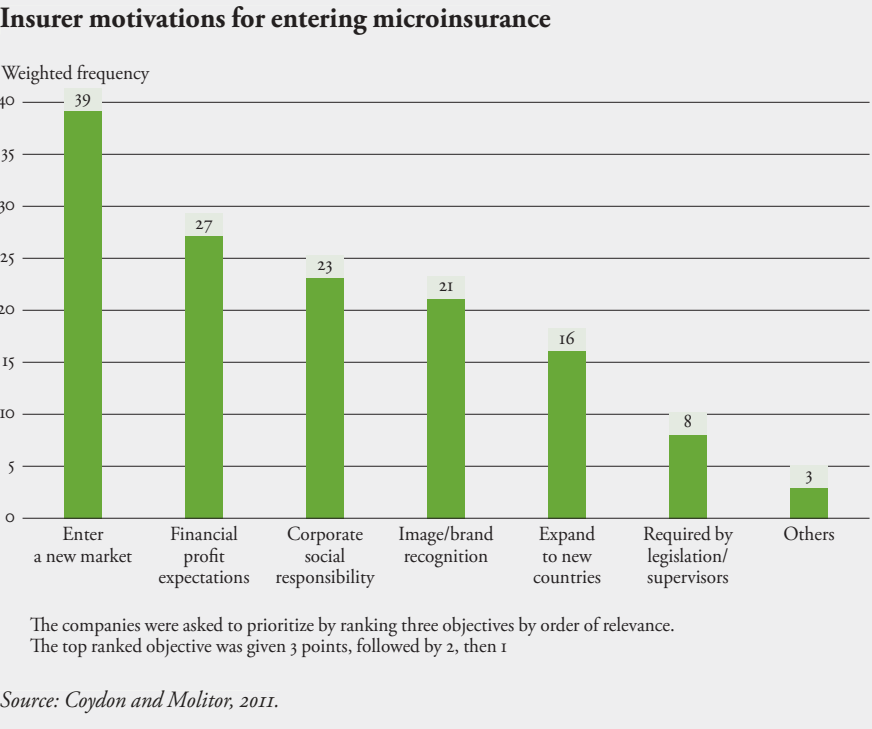
The insurers' motivations for entering this market, shown in Figure 1.2, illustrate the interesting combination of social and commercial objectives, BoP profits and corporate social responsibility (CSR). It is also important to consider

the underlying assumptions that lead insurers to invest in microinsurance. Market-entry decisions are substantially influenced by the demonstration effect, which appears to be enhanced by several factors:

- witnessing other insurers, especially competitors, active in microinsurance and not wanting to be left behind;
- increasing availability of microinsurance information, especially tips and lessons learned, widely disseminated through electronic media; and
- participation in a growing number of microinsurance conferences and meetings.

The impact of this demonstration effect on commercial insurers is a powerful trend. When the first volume of *Protecting the poor* was published, if insurers were not in the market to satisfy regulatory requirements, then they were involved primarily for CSR reasons. They wanted to show that they were doing something good for society, and microinsurance was a logical CSR endeavour because of its proximity to their core business. They were often not particularly focused on profitability, though many hoped this would be an eventual outcome.

Figure 1.2



The entry of more insurers into this market has shifted the social versus commercial equation to a more balanced approach, which should be more sustainable. A spokesperson for Allianz, for example, notes the importance of both the

social and financial impact by saying, “Microinsurance is a double bottom-line business: it has an immediate social impact and, importantly from our perspective, also has a long-term financial impact. With microinsurance, we tap a huge market of low-income households at the bottom of the economic pyramid” (Allianz Group, 2011).

Insurers can find easier ways to make money than microinsurance. The pull of profitability helps to keep them focused on efficiency and market satisfaction, while the CSR angle provides some space for experimentation. Chapter 19 explores this tension between being good corporate citizens and expanding market share, while Box 1.3 highlights the reputation risk to which insurers are exposed as they pursue BoP profits.

Box 1.3

Critique of the BoP approach

The first volume of *Protecting the poor* applied Prahalad’s “bottom of the pyramid” (BoP) business strategy to the insurance industry, suggesting that it might be an effective means to provide cover to low-income markets that could benefit both the insured and the insurer. In the following years, Prahalad’s treatise has also attracted some criticism, warranting a closer investigation.

Some critics challenge the motivations of corporations, and do not believe that they really can achieve a double bottom-line result. Others are concerned that selling consumer goods to the poor may do little to eradicate poverty, and could even harm small businesses and threaten local jobs, for example if they buy from multinationals instead of from local producers. Another line of questioning relates to the target group, where perhaps Prahalad’s business model may apply to the upwardly mobile poor and emerging consumers, but not to the poorest of the poor. One of the most vocal critics, Aneel Karnani from the University of Michigan (2009), believes the BoP approach does not recognize that poor people often act against their own self-interests and leads to a romanticized view of BoP people as value-conscious consumers and resilient entrepreneurs (which) are not only false, but also harmful.

The assumption that all the poor need is an opportunity to improve their livelihood is dangerous, according to Karnani, because it leads states to build too few legal, regulatory, and social mechanisms to protect the poor, as well as to rely too heavily on market solutions to poverty. The failure of this approach was evident in the Andhra Pradesh microfinance crisis, where the lack of supervision of lending institutions enabled borrowers to take multiple loans that they did not have the capacity to understand or repay.

Criticism of the BoP approach, and the microfinance crisis, certainly raise alarm bells for microinsurance. Given the complex nature of insurance, it is difficult for consumers to understand, and they are vulnerable to mis-selling by agents

and to being misled by disreputable firms. These observations highlight the importance for insurers going down-market of carefully considering whether they are providing client value (*Chapter 15*), for policymakers and insurance associations of promoting effective consumer protection (*Chapter 26*), and for regulators of cracking down on illegal insurers that could undermine the fledgling insurance culture in low-income markets (*Chapter 25*).

Insurers need to be aware of the BoP criticisms, and respond accordingly. Few insurers would claim that they had any intention of reaching the very bottom of the pyramid, but were more interested in expanding the insurance market by including under-served segments. In addition, the provision of insurance should not replace local risk-management strategies, but rather enhance their effectiveness. In fact, insurance is fundamentally different from shampoo or salt, the consumer goods often highlighted in BoP business models, because it provides an essential risk-management service that really can enable low-income families to stave off destitution.

The emerging focus on the profitability of microinsurance, analysed in Chapter 18, has spawned efforts to reduce operational costs and have effective processes to serve masses of clients. To support scale, insurers recognize the need to efficiently process huge volumes of data, while securely linking into delivery channels' systems to facilitate data transfer. At the same time, front-office technology, from handheld and point-of-sale devices to mobile phones, are beginning to improve sales, premium collection and even claims settlement. The role of technology in microinsurance is explored in Chapter 24.

Some reinsurers have been interested in finding a role in microinsurance for years. With supply dominated by simple life covers, most commercial schemes had little need for reinsurance. However, as client demand has been better understood, and insurers have been interested in addressing those needs, reinsurers have become more important to the equation. Insurers in many cases have needed not only the reinsurers' financial safety net, but also their expertise in navigating the risks of more complex products. As noted by a senior person at Swiss Re, "Insurance is a cornerstone of economic growth and stability, and [we] ... are proud to contribute our expertise so that even the poorest farmers and their families can cope when crops are ruined by drought, flood or other climate-related impacts" (Swiss Re, 2011). Reinsurers have contributed to developing more complex products, such as health and index-based insurance, and enabling disaster covers to be written. Indeed, with index insurance, most if not all of the risk is ceded to the reinsurer (*see Chapters 4 and 11, and section 20.2*).

1.3.2

Delivery channels

The way in which insurance is delivered to low-income households has evolved considerably since the publication of the first volume. Experience thus far suggests that any organization that already has financial transactions with the poor, and has their trust, could be a prospective delivery channel. The rationale for insurers to use delivery channels is three-fold. First, insurers can gain credibility in the market by exploiting the relationship that the channel has with low-income households. Second, because of the small premium, it is difficult for a full-time agent to generate sufficient commission to sustain a livelihood. Consequently, many microinsurance channels do other things as their main business, such as providing loans, selling groceries or distributing agriculture inputs, with insurance commission providing a supplementary income. Third, the microinsurance business model has a greater chance of success if risk carriers can quickly achieve scale, which they can do by working in partnership with a delivery channel that already aggregates large numbers of low-income persons.

In the first volume, microfinance institutions were the most common delivery channel, so common in fact that they are no longer considered alternative. However, since MFIs reach only a small percentage of the potential microinsurance market, in recent years insurers have been testing other approaches. As illustrated in Figure 1.3, insurers now use an incredibly broad range of channels, although financial institutions remain the most prevalent. Distribution issues are addressed throughout this volume, notably in Chapter 22, which describes alternative channels primarily in Brazil, Colombia and South Africa; section 20.3, which recounts the Indian experiences; and section 24.2, which considers the role of technology to create an interface between the insurer and policyholder.

Besides the automatic cover described above, many alternative distributors are introducing voluntary cover, using their infrastructure to facilitate the payment of insurance premiums. Utilities, telecommunications companies, post offices, payment administrators and retailers have added insurance to their menu of services, and customers who are interested can easily enrol and pay premiums. For insurance to be sold through these channels, however, there is a need for an active sales process to encourage customers to buy the product, perhaps from a call centre or a visit from an agent. Another important limitation, identified in Chapter 22, is that these channels usually deal only with sales and premium collection, but do not have the infrastructure or expertise to manage claims. Consequently, the claims processes can be inconvenient and arduous, which undermines the important demonstration effect that is so critical to fostering the low-income market's trust and confidence in insurance.

Figure 1.3

Distribution channels for commercial insurers



Source: Coydon and Molitor, 2011.

The retail channels such as grocery and clothing stores are interesting because they can be either formal or informal. While the formal retail chains have the advantage of a well-known brand, client data and transaction systems, they are often less convenient than informal retailers. Informal outlets, such as “mom and pop” shops, may have an advantage of proximity and frequency of use, but thus far have not been particularly successful with regard to sales volumes, perhaps because people do not expect to buy insurance where they get their milk and bread, and top up their mobile phone. Insurers have also found it difficult to develop an effective value proposition for informal retailers, leaving them with limited motivation to sell insurance (Smith et al., 2010a).

The emergence of mobile phones as a means of delivering and servicing microinsurance is also an important trend (*see section 24.5*). The ability of insurers to access a technology platform that reaches into low-income communities and facilitates sales, premium collection and claims settlement opens a huge potential market. Once transaction costs have been worked out, mobile phones have the potential to massively expand microinsurance outreach. For example, Micro-Ensure and Tigo have doubled the total number of insured people in Ghana in one year (Gross, 2011b).

Three important lessons have emerged with regard to delivery channels. First, sooner or later, delivery channels realize that they essentially control access to the client, which means that they can negotiate advantageous arrangements for themselves or for their customers, particularly in competitive insurance markets. Where delivery channels choose to negotiate on their own behalf, client value is likely to suffer. Second, these channels will take insurance much more seriously if the product enables them to increase sales of their core service in some way. For

example, a grocery store is likely to be more interested in promoting an insurance product if the benefit includes a year's worth of groceries instead of just a cash benefit. And third, the relationships between insurers and distribution channels can be challenging to manage. Significant investments need to be made up-front and at relevant stages to clarify expectations, roles and responsibilities, and to align incentives. Perhaps one of the most effective means of aligning incentives is through profit-sharing mechanisms or joint ventures.

1.3.3

Governments

As noted in section 1.2, some governments have been instrumental in supporting the growth of microinsurance, both through major leaps and incremental improvements. The involvement of governments in microinsurance has seen a dramatic increase in recent years. As described in Chapter 25 on regulation, Chapter 26 on consumer protection, Chapter 2 on social protection, and illustrated in Chapter 20 in some detail from the experiences in India, governments can play three key functions with regard to microinsurance:

1. **Provider of social protection:** Governments have an obligation to provide social protection to their citizens, including health insurance. However, as described in Chapter 2, this obligation is not being met in many countries, often due to financial constraints. In this context, microinsurance can play several different roles, namely:
 - a) providing a platform to pursue universal health cover, such as the health mutuals in Ghana, Mali and Rwanda;
 - b) extending government benefits to workers in the informal economy, such as KaSAPI in the Philippines, or by adding value to government schemes, as with CIC's Bima ya Jamii (*see Chapter 18*);
 - c) providing a supplementary cover to complement social protection benefits; or
 - d) offering an alternative if government programmes do not reach certain target groups.

Also, within the context of financial constraints, some governments are engaging the private sector through public-private partnerships to assist them in implementing social protection schemes with the expectation that they can be managed more cost-effectively (Ramm, 2011).

2. **Stimulator:** The government can also play an important role in stimulating market development by encouraging public and private insurers and delivery channels to reach under-served segments. In fact, several regulators have a market development mandate in addition to their supervisory function. They may implement that mandate by stimulating the demand side, through premium subsidies, consumer education and awareness-raising activities. For example, in

Colombia, the President has promoted microinsurance on television, and in the Philippines the Government sponsors a “Microinsurance Month” each year. The government may also strengthen the supply side, for example, by organizing workshops or training seminars on microinsurance to help the local industry develop relevant expertise, as in Egypt, Ghana and Zambia.

3. **Regulator and consumer protection advocate:** As discussed in Chapter 25, it may also be necessary for regulators to make adjustments to laws and regulations to reduce obstacles to financial inclusion. Some countries have even created a special category for microinsurance companies (e.g. the Philippines), although others (e.g. Colombia) have succeeded in stimulating inclusive insurance markets without making regulatory changes. An important development in this arena was the creation of the Access to Insurance Initiative (*see Box 1.4*), which supports regulators and facilitates discussion among them to reach better-informed policy decisions, and to create a demonstration effect for policymakers in other countries.

Box 1.4

The Access to Insurance Initiative

The Access to Insurance Initiative is a global programme aimed at facilitating financial inclusion through effective and proportionate regulation and supervision of insurance markets. The Initiative was launched in 2009 by the International Association of Insurance Supervisors (IAIS), the global standard-setting body, in collaboration with development agencies to promote regulatory frameworks that support inclusive insurance while being consistent with international standards. The IAIS leadership of this Initiative is critical because it sets global standards through the Insurance Core Principles and provides capacity-building support to implement those principles in various jurisdictions.

The Initiative endeavours to disseminate knowledge and build awareness of how an enabling environment can encourage innovation for financial inclusion while protecting financial stability and consumers. At the policy level, it provides a platform for regulators and industry leaders in developing countries to contribute to the IAIS processes of setting standards and providing guidance.

Within countries, the Initiative’s main contribution is to support diagnostic studies that assess the current and potential supply and demand of microinsurance, as well as macro-level conditions that might inhibit its development. With this evidence, the Initiative facilitates stakeholder dialogue with policymakers and industry leaders to spur the development of adequate products, delivery and consumer protection approaches for low-income clients.

Source: Adapted from Access to Insurance Initiative, 2011.

1.3.4

Enablers

“Enabler” is a general term used here to refer to all other important stakeholders that contribute to enhancing the availability of better insurance services to more low-income households. In the past five years, there has been growing interest and commitment by these enablers, and their contributions have been essential to the creation of an effective ecosystem to support the advancement of microinsurance. These enablers fall into four categories: a) capacity builders; b) operational specialists; c) funders; and d) promoters.

Capacity builders

Actuaries: In the late 1990s, there were a handful of radical actuaries who actually took time to understand the needs, characteristics and preferences of the low-income market. Then they provided advice and guidance to microinsurers to help them to design better products and systems, to improve data capture and analysis, and to provide improved insurance services to their policyholders. Since the publication of the first volume, there has been increased interest among the actuarial community. For example, the International Actuarial Association and some national associations have organized events and created working groups and task forces to channel their expertise into solving microinsurance challenges. Now the sector can boast several handfuls of actuaries with keen microinsurance insights, some of whom contributed to several chapters in this book including one on pricing (*see Chapter 21*).

Technical assistance (TA) providers: A series of studies in the mid-2000s showed that the primary need of microinsurance risk carriers was not capital but technical assistance.⁵ However, at the time there were not enough experienced microinsurance consultants to supply the required assistance. The dearth of experienced TA providers was holding back the development of microinsurance, as new entrants were making the same mistakes as their predecessors. Since then, many insurance companies have recognized that microinsurance products are not just downscaled versions of traditional products, which has stimulated a demand for consultancy services. This demand has been partly addressed by the emergence of specialized TA providers, such as the MicroInsurance Centre, Micro Insurance Academy, Cenfri, GlobalAgRisk and the Centre for Insurance and Risk Management (CIRM), but even mainstream insurance consulting firms like Milliman and Risk Management Solutions are venturing into this territory.

Academics: The microinsurance community is also fortunate to welcome the growing involvement of academics. As evidenced by the volume of microinsurance articles in peer-reviewed journals, the topic has piqued the interest of many

⁵ From 2004 to 2006, Kreditanstalt Für Wiederaufbau (KfW, German Development Bank) contracted the MicroInsurance Centre to conduct pre-feasibility studies in the following countries: Albania, Azerbaijan, Georgia, India, Indonesia, Lao People's Democratic Republic, Romania, Uganda and Ukraine.

scholars. These researchers generally fall into one of two camps. First, there are the development economists who have made major contributions to the field through their studies on determinants of demand at the household level and assessments of impact (*see Chapter 3*). Second, insurance scholars are also taking an interest in the topic. For example, in 2011, the *Journal of Risk and Insurance* published a special issue on microinsurance, bringing the topic to the attention of insurance academics.

Operational specialists

Intermediaries: As detailed in Chapter 23, both specialized microinsurance brokers and general insurance intermediaries are now filling an important gap in some markets. These intermediaries assist by designing products that are appropriate for the low-income market, bringing together risk carriers and delivery channels, and facilitating communication between two parties that are not accustomed to speaking each other's language or understanding the other's perspective. The specialized intermediaries have assumed a broader range of responsibilities than traditional brokers to enhance their value proposition. However, it is not yet clear whether a business case can be made for this vital function because the premiums are already so small that it is difficult to pay for all of the parties involved while still providing decent value to the policyholders.

Third-party administrators: Although some intermediaries have become involved in policy and claims administration, specialized third-party administrators (TPAs) have also made contributions to the expansion of microinsurance, particularly health insurance in India (*see Chapter 20*). As described in Chapter 6, administrative systems are particularly important for low-income households because they can enable them to access "cashless" healthcare benefits, instead of paying the healthcare costs and then being reimbursed by the insurer.

Technology suppliers: One of the great challenges for microinsurance is to keep administration costs low while managing huge volumes of data. As described in Chapter 24, there is great hope that technology will help the sector overcome this challenge through improvements to back-office software and systems, as well as client-interface mechanisms to support enrolment, premium collection and claims processes.

Extension services and infrastructure: For some products, microinsurers use existing infrastructure or extension services to increase outreach and enhance efficiency. This development is particularly relevant for livestock insurance (*Chapter 12*), where insurers can be supported by agricultural extension agents. Similarly, with weather index insurance (*Chapter 11*), the involvement and support of meteorological departments are critical. Even with health insurance (*Chapter 5*), a number of schemes have engaged community health workers as sales agents, or to promote improved health practices to reduce claims, or both.

Funders

Donors: This book does not directly discuss the issue of donors since it was well covered in the first volume (see Latortue, 2006), but there have been positive trends in donor involvement in microinsurance in the intervening period. A Microinsurance Network study shows dramatic growth in the number of donors involved in microinsurance (Marquaz and Chassin, 2012).

The sector's most sizable donor support, by the Bill & Melinda Gates Foundation, led to, among other things, the creation of the ILO's Microinsurance Innovation Facility. The Facility has supported more than 50 organizations, enabling them to experiment with new approaches to reducing the vulnerability of the working poor through insurance – many of those innovations are highlighted throughout this book and available online in its Knowledge Centre. The Facility has also actively supported the building of capacity by microinsurance consultants and professionals, and the financing of academic research.

The role of donors in microinsurance should not be underestimated. Donors significantly improve the potential for microinsurance success by supporting the following interventions:

- stimulating innovation and experimentation;
- attracting reluctant players into the market through seed funding;
- enhancing regulatory environments;
- supporting new product development;
- developing consumer education programmes;
- providing technical assistance and capacity building to stakeholders throughout the value chain; and
- analysing findings, managing knowledge and disseminating the results.

The last point is important because it enables donors to accelerate the evolution of microinsurance. Through donor-supported knowledge-sharing activities, micro-insurers become exposed to lessons learned and successful innovations that can shorten the learning curve.

Investors: Even more than donors, the most important funders have been insurance companies that use their own capital to expand their involvement in low-income markets. There have even been a few mergers and acquisitions that have had a microinsurance dimension. For example, Sanlam spent roughly US\$250 million to buy African Life, where the bulk of its portfolio was funeral insurance in the low-income sector (*Sanlam Annual Report, 2006*). More than any other indicator, these investments suggest that microinsurance can be viable.

In 2008 the first microinsurance private equity fund, LeapFrog Investments, was launched. Capitalized with US\$135 million by social and commercial investors, the fund aims to reach 25 million low-income and vulnerable people with insurance products and inclusive financial services. With an initial investment of US\$6 million in South Africa's AllLife in December 2009, LeapFrog's profit-with-purpose strategy promises investors "robust returns".

Some development financial institutions have also made microinsurance investments. For example, in 2008, the International Finance Corporation invested in 16.5 per cent of Protecta Seguros, the first specialist microinsurance company in Peru, and the Multilateral Investment Fund invested US\$3 million in ParaLife, a microinsurance venture in Mexico. These investor interventions suggest that microinsurance may have the potential to generate attractive returns for investors.

Promoters

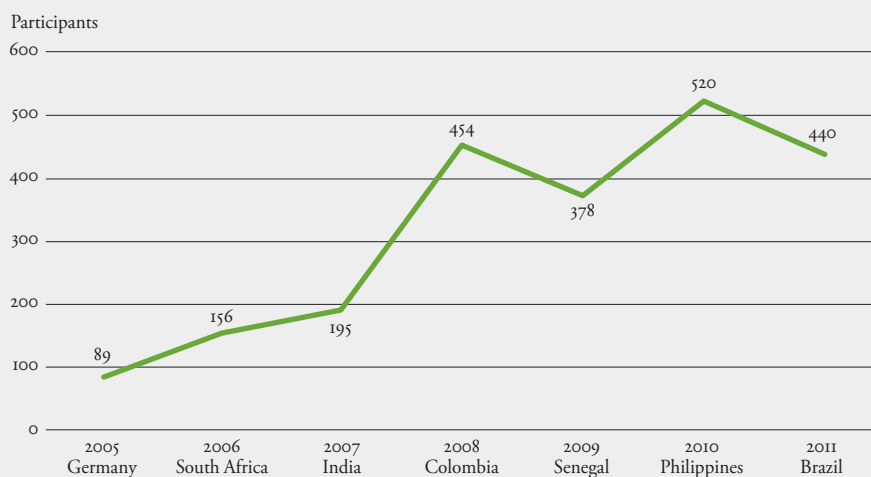
Insurance associations: Another development is the involvement of national insurance associations in microinsurance. These associations, for example in Brazil, Colombia, Kenya and South Africa have typically played two important roles. First, they have raised awareness among their members of BoP business strategies and facilitated access to technical resources to help insurers to understand how to serve the low-income market profitably. Second, as described in *Chapter 14*, many of them have also launched innovative consumer education efforts targeting the working poor so that they better understand how insurance works and how it might fit into household or enterprise risk management strategies.

International insurance associations, such as the International Cooperative and Mutual Insurance Federation (ICMIF), and regional associations, like the African Insurance Organisation (AIO) and Federación Interamericana de Empresas de Seguros (FIDES) in Latin America, also play an important role in raising awareness among their members. They facilitate information exchange among people with different experiences allowing a cross-pollination of ideas and lessons, which is not likely to occur at a national level among competing firms.

Conferences and meetings on microinsurance have proliferated since the first volume was published. The flagship event, the International Microinsurance Conference sponsored by the Munich Re Foundation and the Microinsurance Network, has seen a steady increase in interest (*see Figure 1.4*). Microinsurance has been the focus of academic and professional conferences, and even for-profit conference conveners have organized numerous microinsurance events. Besides the increase in participation at these events, the composition of participants has also shifted to include more insurers looking for ways to improve and expand their product lines.

Figure 1.4

International Microinsurance Conference attendance



Source: Munich Re Foundation, 2011.

The Microinsurance Network: Although the Network is an organization and not a type of enabler, it is mentioned specifically because it plays a unique global role in the sector, raising awareness of the potential of microinsurance, and facilitating dialogue among practitioners and other stakeholders. Through events, publications and electronic media, the Network contributes to improved coordination among various agencies working on microinsurance, enabling limited resources to be used more efficiently. The formalization of the Network in 2008, evolving out of its previous incarnation as the CGAP Working Group on Microinsurance, reflects the changing dynamics in the sector.

To summarize, microinsurance is reaping the benefits of the involvement and commitment of a host of enablers whose financial and technical resources have contributed significantly to improving outreach and effectiveness to protect the poor from financial losses due to risks.

1.4

Providers are offering an expanding and varied range of products

The first volume of *Protecting the poor* only covered life and health products. These were the most common products available to low-income households and demand studies suggested that they covered the priority risks of the poor. However, risk covers for low-income persons have changed significantly in recent years. In this fourth trend, the microinsurance community has seen life and health products improving while experimenting with a broader array of covers, including more voluntary products. This trend is largely intended to respond to

the range of risks to which the poor are exposed, while improving design so that products are more relevant for the target market.

I.4.1

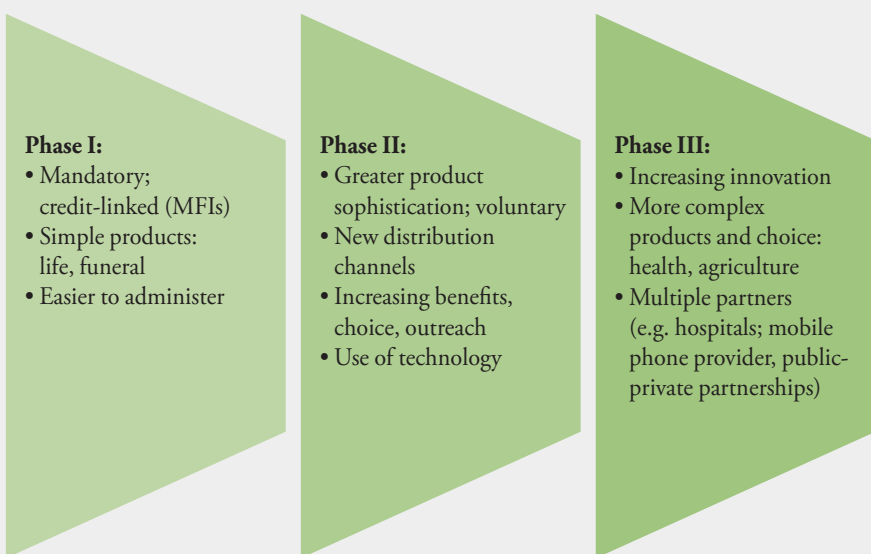
The evolution of product types

As illustrated in Figure 1.5, microinsurance started with basic products, particularly credit life, which helped to demonstrate the viability of microinsurance. Besides being simple to offer and manage, credit life provided risk carriers with the opportunity to develop a quantitative understanding of the market. This was a huge step in product evolution because – from an insurer’s perspective – one of the biggest problems was the lack of data, which inhibited them from serving an unfamiliar market.

When products were offered, the lack of data often resulted in relatively high premiums, since additional loadings were added to compensate for the uncertainty (*see Chapter 21*) and the unnecessarily high premiums further hindered demand. Through this initial experience, the ability of insurers to gather data on risk and the potential for profitability built a foundation for the development of more complex products. With a growing understanding of client demand, some delivery channels also pushed insurers for better products. Each time insurers ventured into new products for this market, more was learned and this facilitated the evolutionary advancement to the next level.

Figure 1.5

Evolution of microinsurance products and processes



Source: ILO's Microinsurance Innovation Facility, 2011.

Even basic products, such as credit life (*Chapter 9*) and funeral insurance (*Chapter 10*), have evolved to provide greater client value. Instead of just covering the loan, or paying only for the funeral service, additional benefits are being added to enable these products to help low-income families cope better with the loss of a breadwinner. These products are also being used as entry points to cover other persons and/or provide protection against additional risks.

More sophisticated life insurance that has a savings element may be well suited to the poor because it builds up value over time, so that policyholders do not feel that they have wasted their money if the insured event does not occur. However, the previous generation of these products provided poor customer value because of high commissions and frequent lapses (Roth et al., 2006). Consequently, new variations are being developed, as described in Chapter 8, which may provide a better value proposition to the market, while still being viable for insurers.

An evolution is occurring with health covers in some countries (*see Chapter 5*), although not all schemes follow the same trajectory. Hospital cash products are reasonably straightforward. Experience with these products can make it possible to offer hospitalization covers on a reimbursement basis, which may evolve into “cashless” benefits, as described in Chapter 6. Another dimension to this evolution is how health insurance can support or complement social protection benefits provided by the government (*Chapter 2*). Moving forward, the vanguard are pushing the frontier to cover outpatient risks or integrating non-insurance value-added benefits, such as health education, telemedicine services and pharmaceutical discounts.

The trend towards more complex covers, including index insurance and disaster cover (*Chapters 4 and 11*), and composite products that cover multiple risks, is consistent with the risk management needs of poor households. This trend is not necessarily consistent, however, with their ability to pay (*see Chapter 7*), or with the basic tenet of microinsurance product design: keep it simple. Microinsurance enablers and delivery channels have long advocated simple products that are easy for policyholders to understand, where there is no ambiguity or misunderstanding about what is and is not covered. The primacy of simplicity cannot be lost in the evolution towards more comprehensive covers.

1.4.2 The evolution of product design

Besides the greater variety of products, the products themselves have been transformed along this evolutionary path. Group covers, often on a mandatory basis, were the most common type of microinsurance, and probably still are. However, there is more experimentation with other approaches, including voluntary group

insurance where members of the group opt in or out, and even voluntary individual covers.

While previously many products were downscaled versions of traditional lines, product evolution has embraced reengineering to respond better to the realities of the low-income market. For example, past policies might have included a list of exclusions, whereas many insurers now recognize the benefits of minimizing them to simplify policies and reduce the work involved in checking exclusions in small policies. Even small changes to products and their delivery can have important effects on marketability and demand, as discussed in Chapter 13.

A small change that has the potential to make a significant impact is the awareness that products need to be more than just risk covers. As in the example of life insurance that accumulates savings and health insurance with free outpatient coupons, low-income households need to get some value from the product even if they do not make claims. If that value-added benefit can also reduce claims – for example by providing weather information to insured farmers or health education to reduce the occurrence of preventable diseases – then everyone benefits.

Since the low-income market is not homogeneous, a related trend is towards greater market segmentation. Sometimes this happens naturally, since certain distribution channels reach certain market segments. However, microinsurers are also considering the requirements of specific segments, including women (*Chapter 16*), migrants (*Chapter 17*), smallholders (*Chapter 11*) and livestock keepers (*Chapter 12*), and designing products that are relevant for them.

For products to succeed, they need to be at scale with streamlined administrative costs, which is partly why credit life took off. Besides bundling insurance with credit, more organizations are linking insurance with other transactions to reach poor households, such as buying seed or fertilizer, or purchasing mobile phone minutes, or becoming a member of an organization, though these products can typically only provide very basic insurance with small benefits. This linkage is often positioned as a free member benefit, a way of distinguishing the distribution channel's core product from the competition; consequently, the premium has to be so small that it does not increase the price of the core product. If this arrangement enables low-income households to have a positive experience with insurance, and if the products evolve to include voluntary options, then the approach could revolutionize the supply and demand sides of the microinsurance equation – that has not happened yet, but perhaps it will be the next trend.

Instead, one often finds a lack of product education among people who “buy” group cover. Since clients do not make choices and there is no financial transaction specifically for the premium payment, intermediaries often do not provide

the necessary information. Such products generally have excessively low claims ratios, seemingly the result of people not knowing that they are covered. As one rural banker in Ghana noted, “If we tell people all about the cover, we’d be flooded with claims.” Apparently, there remains greater scope for raising awareness for intermediaries as well as for the insured, because bad practices can fuel distrust that will affect all players on the market.

1.5 **There is greater concern that insurance provides value to the insured**

The fifth trend is the increasing interest in ensuring that the poor are obtaining value from insurance, and that they are protected from possible abuse. The focus during the early days of microinsurance was on understanding how it worked, the operational tricks of the trade, and improving access. Now that nearly half a billion low-income persons have cover and the sector is maturing, more attention is being paid to assessing whether they are actually benefiting from insurance.

Interest in value is coming from different stakeholders and is articulated in different ways. Donors and policymakers are keen to understand **impact**. If, for example, they are going to provide subsidies, they want to know whether these interventions really benefit low-income households. In theory, insurance is an efficient way to manage certain risks, and there is considerable anecdotal evidence to support the theory. Moving from theory into practice, findings from rigorous research now provide evidence that microinsurance actually benefits poor households, although the findings are limited to the impact of health insurance for the time being (*see Chapters 3 and 5*). A number of additional impact studies with rigorous methodologies are currently under way, suggesting that more tangible results will be emerging in the coming years.

The Microinsurance Network is tackling this client value issue from two angles, which coincide with efforts to prove and improve impact. To support efforts to prove the value of insurance, the Network’s Impact Working Group is developing guidelines on how to conduct impact studies properly, not only to improve the effectiveness of the studies, but also to promote common approaches that will facilitate meta-analyses across studies (Radermacher et al., 2012). Second, the Performance Working Group has proposed a set of social performance indicators that practitioners, donors and investors can monitor (Simanowitz and Sandmark, 2011). These indicators will not prove that insurance has an economic and social impact, but they can enable stakeholders to monitor whether their performance is efficient as well as socially relevant so that it can be improved over time.

Given the rapid evolution of microinsurance products described in the previous section, it might be premature to invest heavily in the “proving” agenda at this stage, since rigorous methodologies also tend to be expensive. Efforts now

should focus on understanding the components of client value and improving products so that we will have mature products at scale that can be assessed by more comprehensive longitudinal studies in the future. Chapter 15 presents such a framework for assessing **client value**, which can help risk carriers and delivery channels demonstrate to the market that they are providing sufficient value to warrant low-income households spending part of their limited income on premiums. By assessing client value, insurers can also better understand client preferences, understand their willingness and ability to pay for cover (*Chapter 7*), seek to continue to improve their value proposition to enhance renewals, and increase the effectiveness of their sales practices:

Another promising method of rapidly understanding value is the client math methodology developed by the MicroInsurance Centre, which aims to understand the value of insurance relative to other risk management options (see Mor-sink and Geurts, 2011).

Lastly, regulators and insurance associations are keen to ensure that sufficient **consumer protection** is in place so that the industry can forge and maintain the trust of the market. Consequently, Chapter 26 provides some preliminary guidance on improving transparency, fair treatment and recourse in microinsurance markets.

1.6

Conclusion

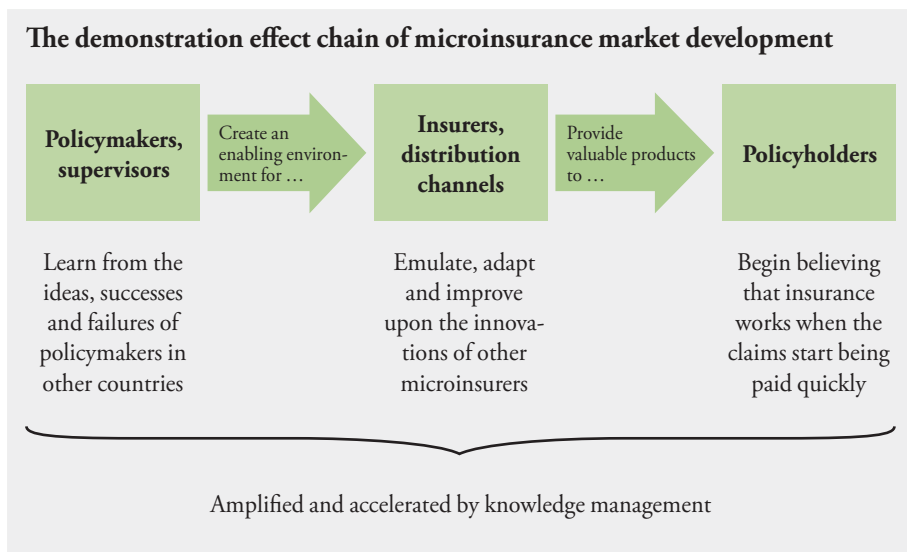
The optimal trend is for more low-income families to have better access to a greater variety of valuable risk management products. The trends explored in this chapter reflect a move towards this ideal. There has indeed been substantial growth in outreach, with greater access to an expanding variety of products. More insurers and intermediaries are becoming involved, leading to competition in some markets, which has the potential to enhance the value proposition for clients. As the definition of microinsurance becomes clearer, there is a greater effort to understand what it means to provide intangible risk management services to the low-income market effectively and profitably. All this feeds the trend towards a focus on value for low-income markets. Together, these trends reflect a sector that is maturing into adolescence.

The trends that have propelled microinsurance are likely to continue and even increase in importance because of the powerful demonstration effect under way at several different levels, where first movers set an example for others (*see Figure 1.6*).

Growth thus far has been driven by a few committed countries, but microinsurance has not yet taken root in numerous jurisdictions. As more policymakers and insurance supervisors follow the lead of pioneering countries and learn from their experiences, there will be a new boost in global microinsurance outreach.

Furthermore, even in States where microinsurance is already growing, it may expand further if policymakers promote subsidies and expand their involvement in PPPs to achieve public policy objectives with limited budgets. To increase their impact, policymakers can also do more to support knowledge management to make good practices widely available, and promote data standardization, collection and aggregation so that pricing is based on relevant experience. They can also advance customer protection without undermining innovation, and encourage consumer education so that the public understand what they are being offered, appreciate how it can help them, and know where to turn if they are not satisfied with the results.

Figure 1.6



As for insurers and delivery channels, in some markets microinsurance will become increasingly competitive, especially given the broad emergence of more effective payment systems. As enrolment and premium collection becomes easier and cheaper, the potential for insurers will expand dramatically. This expansion should lead to better pricing and a broader range of voluntary products as insurers link with new collaborators such as dairies and agricultural suppliers, pharmaceutical companies and healthcare providers, telecommunications companies and retailers. Yet with growth and visibility comes responsibility. Operating under the radar meant that microinsurance providers and promoters were allowed significant latitude. Maturity is making many take a closer look at the results to carefully consider the consumer protection implications.

A critical challenge in building a market is on the demand side, creating conditions that encourage low-income households to turn to insurance naturally as part of their risk management toolkit. In environments where microinsurance is prevalent, and providers are cultivating the trust of that market through efficient

claims payments, such conditions are emerging. However, microinsurance providers need to continue to recognize that their most important function is to pay claims, and build on the emerging demonstration effect.

Much of what moves people, institutions, and industries from infancy to adolescence and adulthood is simply how they turn experiences into lessons. In microinsurance, many lessons are being learned and there are expanding efforts to disseminate those lessons to improve future results. The rest of this book is an effort to synthesize those lessons to bolster microinsurance trends with practical experience and expand them with new knowledge.

2 The potential of microinsurance for social protection

Yvonne Deblon and Markus Loewe

The authors wish to thank Christine Bokstal (ILO), Valerie Schmidt-Diabate (ILO), Iddo Dror (Micro Insurance Academy), Gaby Ramm (consultant), Anja Smith (Cenfri) and John Woodall (ILO) for their review of the chapter.

Social protection is recognized internationally as a human right.¹ However, this right is not well enforced by most countries around the globe for different reasons, leaving large segments of their populations without access to adequate social protection measures and vulnerable to numerous risks. In addition, vulnerable people are often unable to improve their socio-economic situation: they are reluctant to invest excess income into productive physical capital or education. Instead, they accumulate “rainy day” funds, savings in cash or in assets (e.g. gold, livestock) that can be accessed if a risk event occurs. As a result, their savings yield only limited returns, which are too small to enable them to build a better life and escape poverty.

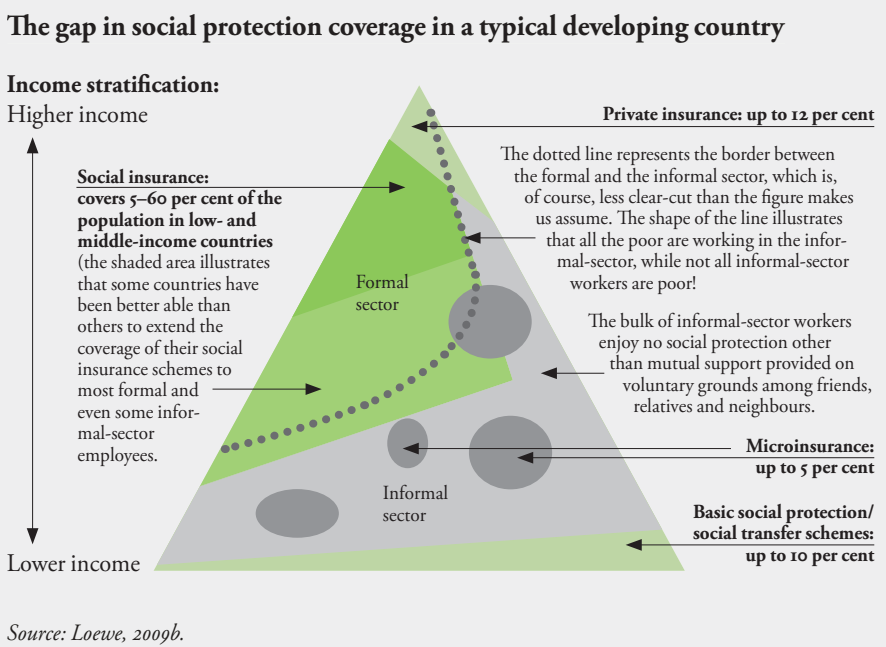
People who work in the informal economy are particularly prone to becoming marooned in the perpetual circle of vulnerability, risk-aversion and low income. They fall into the widening gap in coverage that exists between the different kinds of social protection schemes found in most developing countries (*see Figure 2.1*). Wealthy households can afford to buy private health, life, liability and asset insurance. Civil servants are usually entitled to tax-funded pensions and free medical treatment in government hospitals. Other formal-economy employees in many countries are covered by social insurance. Some of the extreme poor may benefit from targeted social assistance. All other people – especially the inhabitants of rural areas, the urban poor, and those working in the informal economy – often have no access whatsoever to any such formal social protection schemes.

Workers in the informal economy rely on, and often benefit from, the support provided by relatives and neighbours within their communities. In addition, some households are organized in groups that have the explicit goal of helping their members to manage risks – such as health mutuals and burial societies. While such non-formalized social protection schemes are of considerable importance for their members, they remain limited in terms of their scope and scale.

¹ See the Universal Declaration of Human Rights, 1948 (Article 22) and the International Covenant on Economic, Social and Cultural Rights, 1976 (Article 9). Also, the constitutions of more than 110 independent States make reference to the right to social protection in one way or another.

Moreover, it is often the case that such schemes are insufficiently reliable because they are based on moral obligations and goodwill rather than on any formal obligation. There is no mechanism that allows for members to enforce the provision of benefits in the event of default, and these schemes are also often highly susceptible to economic stress. Finally, the combined effect of trends towards migration, urbanization and the diminishing importance of traditional values and norms are resulting in the evident erosion of, in particular, mutual support networks.

Figure 2.1



Microinsurance is one potentially effective instrument for overcoming this situation. Unfortunately, microinsurance is often discussed in isolation and is in many cases implemented without consideration of the underlying context. Its ultimate goal is to reduce the vulnerability of people living on low incomes by enabling them to manage risks more efficiently. It is thus a social protection instrument, which should not be overlooked when a social policy strategy is developed. There are alternatives to microinsurance for reaching this goal, which may be more or less effective depending on the particular context concerned, but it still warrants consideration.

This chapter strives to answer three questions: 1) to what extent can microinsurance contribute to closing the gap in social protection coverage in developing countries; 2) how should it be designed for maximum impact; and 3) under what conditions would it be preferable to other social protection instruments?

The chapter argues that a systemic perspective on social protection is crucial for analysing the effects of microinsurance and for optimizing its design. It is just one possible social protection tool and should be well embedded in a country's overall social protection framework. Microinsurance is no substitute for social transfers, which are financed by taxes and intended to support the poorest and most vulnerable members of society. In addition, it is not a priori superior to social insurance (especially for risks such as illness and old age), as long as both instruments are realistic options, i.e. where the State has both the political will and the institutional capacity required to build up social insurance schemes for low-income households.

The potential for microinsurance is huge in most developing countries, especially if many governments are unwilling or unable to extend public social protection schemes to excluded segments of the population. In addition, countries are generally unable to provide comprehensive social protection systems against all relevant risks faced by each and every household. Thus, there is plenty of room for microinsurance in the majority of developing and emerging countries.

This chapter proceeds as follows: section 2.1 defines social protection, with an overview of its scope and functions. Section 2.2 explains why many households in developing countries lack access to adequate social protection. Section 2.3 portrays microinsurance as a social protection instrument and discusses possible roles of microinsurance within the overall social protection framework. Section 2.4 concludes with an appeal for a systemic perspective to be employed when analysing and implementing microinsurance schemes.

2.1 Scope and functions of social protection

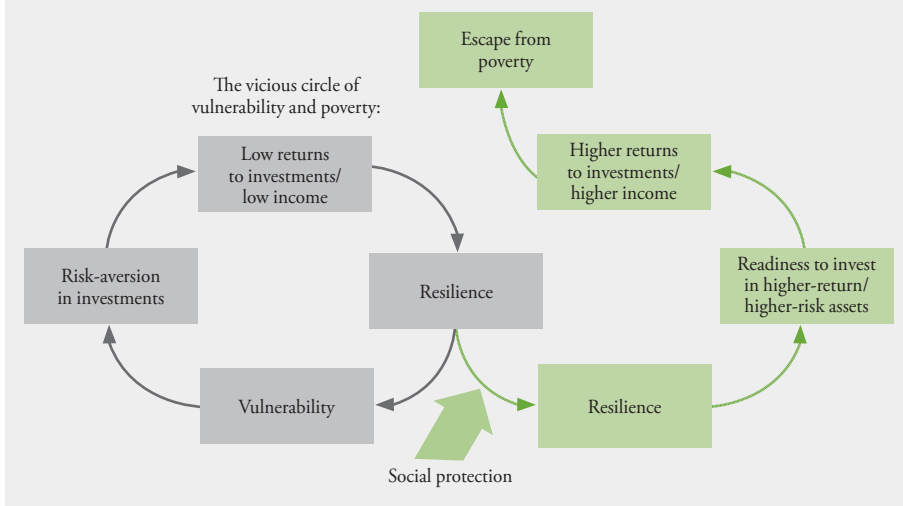
People everywhere are confronted with manifold risks. A risk is the possibility of an event with negative effects leading to a decline in income for a person or household (as in the case of unemployment) or a rise in expenditure (as in the case of a price shock), or both (as would be the case when an illness leads to disability that prevents employment and results in healthcare costs).

The existence of risk and the lack of preparedness for that risk leads to vulnerability, which is the likelihood that a person or household will suffer a significant decline in well-being due to a risk event. This likelihood rises with 1) the probability of a risk event; 2) the expected magnitude of its effects; and 3) the lack of resilience of the persons or households, which depends, among other things, on asset endowment, including cash and property.

Vulnerability and poverty are thus not the same, but they mutually reinforce one another (see Figure 2.2). On the one hand, poor people are more vulnerable: than those who are better off they are exposed to a higher number of risks, to more severe risks, and to a higher probability of a risk occurring because of their more hazardous living and working conditions. In addition, the poor have fewer assets that can be sold to cover emergency spending, or to diversify their sources of income (e.g. from labour to capital income), or to offer as security for a loan. Risks that may lead to losses that are independent of income or assets represent a more serious threat to low-income households than for households that are better off because the possible loss is greater in relative terms. However, even risks that are associated with a loss that grows proportionally with income or wealth are normally considered more serious by poor people than by rich people. This phenomenon is due to the fact that the marginal utility of income diminishes as it rises, as was proven theoretically as early as 1964 by Pratt (Pratt, 1964; Loewe, 2005b; Zweifel and Eisen, 2000).

Figure 2.2

The promotional function of social protection: Breaking the vicious circle of poverty and vulnerability



On the other hand, vulnerability exacerbates poverty in three ways:

- 1) The occurrence of a risk decreases people's well-being.
- 2) It may force people to use their financial, physical, human and social assets to cope with the corresponding effects. They may, for example, have to draw on their savings, sell productive assets (e.g. land or machinery), take children out of school and put them to work, or use social networks for financial support. In doing so, they would use up the very resources that might otherwise help them

to develop the future income-earning activities that could enable them to recover and improve their socio-economic situation.

- 3) Vulnerability reduces people's readiness to extend their economic activities and thus improve their socio-economic well-being. People who are vulnerable to risks such as illness or unemployment are reluctant to invest any excess income in productive capital or education. This would help them to increase their income but also imply some additional risks. Instead, they tend to accumulate funds or assets so that these can be accessed easily whenever a risk event occurs (e.g. to pay for medical treatment). Similarly, an awareness of their vulnerability to uninsured risks can lead to the use of outdated, though less risky, production technologies.²

The objective of social protection is to break this vicious circle. This chapter defines social protection as the total set of actions that are carried out by the State or other players (e.g. commercial companies, charitable organizations and self-help groups) to address risk, vulnerability or chronic poverty. This description constitutes a compromise between the different positions taken by the relevant international players with regard to the meaning of this term. The ILO's definition is comparatively narrow. It sometimes uses the term "social protection" as a synonym for "social security".³ In most cases, however, it prefers to use "social security", which involves only risks that are typical for people who derive their income from paid labour.⁴

However, most other definitions are broader. The World Bank, for example, considers that social protection encompasses all "public interventions to 1) assist individuals, households, and communities to better manage risk, and 2) provide support to the critically poor" (Holzmann and Jorgensen, 2000, p. 3). Similarly, the Organisation for Economic Co-operation and Development (OECD) refers to social protection as the "policies and actions which enhance the capacity of poor and vulnerable people to escape from poverty and enable them to better manage risks and shocks" (OECD, 2009, p. 10).

² For empirical evidence on these effects see Bird (2001); Fafchamps and Minten (2008); Lichand (2010).

³ In at least one publication, social protection is defined as "the set of public measures that a society provides for its members to protect them against economic and social distress that would be caused by the absence or a substantial reduction of income from work as a result of various contingencies (sickness, maternity, employment injury, unemployment, invalidity, old age, and death of the breadwinner); the provision of health care; and, the provision of benefits for families with children" (García and Gruat, 2003, p. 13).

⁴ In a recent major publication, for example, the term "social security" is taken to cover "all measures providing benefits, whether in cash or in kind, to secure protection, inter alia, from (a) lack of work-related income (or insufficient income) caused by sickness, disability, maternity, employment injury, unemployment, old age, or death of a family member; (b) lack of access or unaffordable access to health care; (c) insufficient family support, particularly for children and adult dependants; (d) general poverty and social exclusion" (ILO, 2010, p. 13).

Meanwhile, there is a growing consensus that social protection has three key functions:

- 1) **Prevention:** To provide security to vulnerable households by reducing the likelihood of their suffering a serious decline in well-being and possibly even falling into absolute poverty. This goal can be achieved by a) reducing the likelihood of risk occurrence (risk prevention); b) reducing the possible effects of risk occurrence (risk mitigation); or c) supporting households in their efforts to cope with the effects of risks once they have materialized (see below).
- 2) **Protection:** To extend financial or in-kind support to the poor through the redistribution of income within society.
- 3) **Promotion:** To expand the opportunities for the poor and vulnerable to raise their productivity and income by encouraging them to take on the additional risks that are associated with investing their savings in education and productive assets.

These three functions can be performed by social protection schemes in three different ways:

- 1) by reducing ex-ante the likelihood of a risk event (risk prevention);
- 2) by limiting ex-ante the possible effects of a risk event (risk mitigation) through the accumulation of savings (risk provisioning), insurance (risk sharing) or self-insurance (risk diversification); and
- 3) by absorbing ex-post the effects of a risk event (coping with risk).

By fulfilling these tasks, social protection contributes to development in three different ways (Cichon and Scholz, 2009; de Neubourg, 2009; Loewe, 2005a). Firstly, it contributes to socio-economic justice by preventing people from falling into poverty, by providing support to people in poverty and by helping people to escape from poverty. Secondly, social protection contributes to productive investment and economic growth. It encourages low-income households, in particular, to invest excess income in education and tools of production, and thereby mobilizes local savings for productive purposes. Lastly, social protection contributes to political stability and social cohesion. In the 19th century German Chancellor Otto von Bismarck initiated the world's first social insurance scheme mainly to contain opposing socialist forces, to appease an underprivileged industrial workforce and to build a German nation state, rather than out of any concern for the poor or a feeling of solidarity. Indeed, politicians in many countries around the world have since then followed this example.

Social protection is thus a cornerstone of a country's social, economic and political development.

2.2 Social protection in developing countries

Social protection can be organized by the State, commercial companies, self-help groups or other players. Most countries have social protection systems run by all of them.

State-run social protection schemes are financed either by the contributions of their members or by general tax revenues. Social insurance schemes, in particular, are financed by regular contributions and are usually linked to formal (contractual) labour relationships. They are based on specified rules, often underpinned by law, and provide benefits when a member of the household experiences a sudden shock due to a specific risk that is predefined by law (e.g. old age, a disability, or the death of a breadwinner). Social insurance schemes can thus effectively reduce the vulnerability of households that can afford to pay some regular contribution in exchange for a reduced exposure to risk. Nonetheless, they address only a specific set of risks, which may not always include the risks that constitute the most serious threats for their members. For example, such schemes do not, in general, provide protection against harvest failure resulting from weather-related risks – even though these risks constitute a more serious problem for many rural households than old-age or work injuries, which can be managed through the mutual support of relatives and neighbours. In addition, social insurance generally fails to help the extreme poor, who are unable to pay even very small contributions, and thus tend to be excluded from social insurance schemes.

Social transfer schemes help to prevent and alleviate both chronic and transitional poverty. In addition, they normally address all kinds of risks, but they tend to be less powerful in terms of reducing the vulnerability of households. Since they are financed by tax revenues, benefits are usually quite limited and aim to prevent households from falling into severe poverty. However, they are not able to prevent any deterioration in the well-being of richer households because the benefits provided by social transfer schemes fall well short of replacing their former income – something that social insurance schemes are often able to do.

There are two types of social transfer schemes: “targeted” and “universal” schemes. Targeted schemes grant benefits only to people in need, while universal schemes pay out to all households. Although the sum of the benefits provided by targeted schemes is, as a rule, considerably smaller than the total expenditure of universal schemes, their budgets are sometimes even higher because of the targeting costs involved (i.e. the costs of identifying eligible households).

Likewise, a distinction can be made between cash transfer schemes (e.g. social assistance, social pension and basic income grant), vouchers (e.g. for education or health services), and in-kind transfers (e.g. food rations or free public health care).

In general, non-public social protection schemes are financed by contributions. This is particularly the case for schemes that are run by commercial companies (including private insurers, in which case the contributions are “premiums”), by self-help groups (such as savings, credit and insurance groups) and by micro-finance institutions. Even mutual support networks expect their members to give their relatives and neighbours approximately as much as they have received from others, the only exception being the charitable support provided by rich households to the poor for philanthropic reasons (*see Table 2.1*).

Table 2.1

Overview of social protection schemes organized by the various players

<i>Organized/ administered by:</i>	<i>Financed by members' contributions (addressing vulnerability and specific risks)</i>	<i>Financed by taxes or the voluntary donations of other households (addressing transient and chronic poverty and a broad range of risks)</i>
Government/public authority	<ul style="list-style-type: none"> – Social insurance schemes – National provident funds – Public credit schemes 	<ul style="list-style-type: none"> – Social assistance schemes – Universal cash transfer schemes – Cash/food-for-education schemes – Cash/food-for-work schemes – “Free” public healthcare systems
Commercial/private companies	<ul style="list-style-type: none"> – Commercial savings schemes – Commercial credit schemes – Private insurance contracts 	
Semi-formal self-help groups	<ul style="list-style-type: none"> – Savings and credit clubs – Mutual insurance associations 	
Traditional networks	Mutual support networks	Charitable support provided by the rich to poor households

The main challenge for social protection policies in developing countries results from the fact that the coverage of many schemes is quite limited, in terms of both scale and scope. Indeed, social insurance schemes reach only a minority of the population (*see Figure 2.1*). With only a few exceptions, old-age insurance covers no more than 40 per cent of the labour force in middle-income countries and 10 per cent of the labour force in low-income countries (ILO, 2010). At the same time, less than 12 per cent of the population have private health or pension insurance (Drechsler and Jütting, 2005), and less than 5 per cent receive public social assistance benefits (Barrientos and Holmes, 2007).

Efforts to extend social insurance coverage are often constrained for financial, administrative and political reasons:

- 1) Most existing schemes are based on formal employment relationships and contributions are shared by employees and employers. These rules are difficult to apply in relation to people in unstable, informal employment, especially those who are self-employed.
- 2) Social insurance organizations face administrative problems in terms of monitoring the enrolment of workers in the informal economy, collecting their contributions and properly administering their claims.

- 3) Groups of employees that are already insured often oppose the inclusion of additional groups in social insurance schemes, as they are afraid it will have an adverse effect on them – especially when the new groups are on average poorer than they are.

Likewise, few countries have extended the outreach of their social transfer schemes. Low-income countries are particularly constrained by budgetary considerations. However, even middle-income countries are often reluctant to provide more cash or in-kind support to those in need. Politicians often lack the commitment needed for allocating public resources to population groups that are usually not well organized and thus unable to exert pressure on their governments.

As illustrated throughout this book, commercial insurers also face difficulties in attracting low-income customers:

- 1) Their administrative costs are usually relatively high, so they have to charge premiums that are too expensive for low-income earners.
- 2) Commercial insurers face difficulties in obtaining important information on the risk profiles and behaviour of people working in the informal economy and living in informal settlements. Also, if they offer products to such customers, they risk being confronted with the problems of adverse selection and moral hazard.
- 3) Many low-income households have little understanding of how insurance works, mistrust insurance companies and hence often display little demand for insurance.

At the same time, insurance companies have few incentives to target low-income households. In many developing countries, insurance markets are protected against foreign competitors, and the market of high- and medium-income customers is more attractive. As a result, insurers do little in these countries to make poor people understand their customary, sometimes complicated, products and to raise awareness about the necessity to insure against risks. Finally, their payout mechanisms are also often slow, which makes them rather unattractive for poor people, who need rapid access to funds.

Community-based schemes represent a possible instrument for extending social protection to the informal sector. However, such schemes also face a number of constraints that may threaten their very survival. Indeed, they are usually marked by low subscription rates, insufficient financial capacity, and organizational and managerial problems (Fonteneau and Galland, 2006; Jütting, 2002; Meesen et al., 2002).

Social protection schemes in developing countries tend to cover only a limited range of the relevant risks. For example, they normally address only health and life-cycle risks such as old age, a disability that prevents employment, or the death of the main family breadwinner. Few feature unemployment insurance. Hardly any schemes provide protection against natural risks, which are more of a threat to many rural households than life-cycle risks.

2.3

Microinsurance as a social protection tool

One possible instrument for filling these gaps is microinsurance. As a risk-pooling tool, financed mainly by premiums, microinsurance involves a horizontal redistribution of income between peers with comparable risk profiles, rather than on a vertical redistribution from the rich to the poor. At the same time, the prefix “micro” indicates that the contribution rates are affordable for low-income earners, with correspondingly limited benefits. Ideally, the scheme’s benefit package, enrolment conditions and transaction formalities should meet the specific needs of the target group.

A tremendous diversity of organizations have set up microinsurance schemes that operate in line with this definition. This would include social insurance corporations (e.g. the Comprehensive Social Insurance Scheme in Egypt), public insurance companies (e.g. Janashree Bima Yojana offered by the Life Insurance Corporation in India), commercial insurance companies, some healthcare providers (e.g. the Chogoria Hospital in Kenya), many microfinance institutions, private welfare organizations (e.g. IRAM in Mozambique or Activists for Social Alternatives in India), cooperatives (e.g. the Asociación Mutual Los Andes in Colombia) and community networks (such as *harambees* in Kenya).

If properly designed, microinsurance constitutes an efficient means of providing workers in the informal economy with social safeguards. In this way, it can potentially contribute to closing the gaps in coverage that exist with the social protection schemes operating in developing countries (*see Figure 2.1*). Empirical studies from Bangladesh and India provide evidence that microinsurance can (though it does not always) have a significant positive impact on several aspects of multidimensional poverty (Hamid et al., 2010). For more on the impact of microinsurance, see Chapter 3.

In addition, microinsurance can also play an important role in empowering its members. Microinsurance contracts are often the product of a dialogue between providers and the target groups, whereas public social protection schemes are often created by purely top-down processes. As a result, microinsurance can be responsive to the specific needs and preferences of low-income earners. In addition, successful microinsurance projects have a demonstration effect: they raise awareness about the significance of providing protection against risks and of pre-empting the likely consequences should they actually materialize. Similarly, they show that collaboration within groups can strengthen the opportunities and position of the individual (Loewe, 2009b).

There are, however, some limitations to the potential of microinsurance (*see Loewe, 2006*).

Firstly, microinsurance is not a substitute for a social transfer scheme because microinsurance addresses vulnerability rather than chronic poverty, while social transfers provide immediate support to people in poverty. Microinsurance

schemes (in a broadly similar way to social insurance schemes) are financed by their members' contributions and are intended to mitigate the impact of any possible future downturns in a member's income and any unexpected rise in his/her essential expenditure. Thus, they are not a suitable instrument for people who have difficulty meeting their most basic daily needs, let alone making provision for future social needs. The extreme poor can only be safeguarded through transfers financed by tax revenue.

In addition – again, unlike tax-transfer schemes and also unlike social insurance systems – microinsurance schemes cannot (and are not meant to) redistribute funds from rich members of society to the poor. This weakness is explained by the fact that enrolment in a microinsurance scheme is typically restricted to low-income households. If a microinsurance scheme used contributions made by rich members to cross-subsidize the benefits provided to poor members, it would be attractive only to the poor.

Secondly, many households lack the opportunity to join a microinsurance scheme because no such scheme operates in their vicinity. Microinsurance schemes contribute in a way to equality and social justice: they provide people with low and fluctuating income, who often cannot access other kinds of social protection instruments, with the opportunity to mitigate their risks as well. However, today microinsurance schemes cover only a limited portion of the population in their respective countries. Indeed, many experts believe that microinsurance will never reach a majority of the population, even under the most optimistic of assumptions (Roth et al., 2007).

Governments and donors may support the expansion of microinsurance by providing advice and promoting the creation of sound basic conditions. However, the fairness of providing financial subsidies to these schemes should be carefully considered, as they would favour the clients of the schemes at the expense of households who do not even have a chance to join. Subsidies are problematic because microinsurance customers are often not from the lowest income strata – for example, because the very poor cannot afford even the premiums payable under microinsurance schemes. However, government budgets in developing countries are normally mainly financed from indirect taxes, which are borne by all segments of the population, including the very poor. As a result, the subsidization of microinsurance makes the very poor co-finance the benefits of households who are less poor than they are. Replacing indirect taxes with direct taxes would improve the situation, but many countries face administrative difficulties in collecting direct taxes.

Things look different if a large majority of the population, including the very poor, has physical access to a microinsurance scheme and if only the premiums of the poorest are subsidized. In this case, subsidies can be an instrument of progressive redistribution and eliminate concern about equity.

Thirdly, microinsurance is more suitable for some risks than for others. Experience indicates that the problems tend to be least in life and disability insurance. Insurance against extreme weather events is currently offered in a number of countries, although this is much more difficult to design and manage (*see Chapter 4*). Offering a micro-pension is also difficult as it requires a high degree of customer trust in providers, especially since the benefits are payable decades after the first premiums have been paid, not to mention the difficulty for the provider of managing investments to yield the long-term returns that make future pension payments possible. Until now, what has been sold in India under the label of “micro-pension” differs little from a simple savings product, which contains no pooling of risks. Contributions are defined while benefits depend on the interest achieved by the insurer investing member funds in the capital markets. In addition, benefits are either lump-sum or annuities that are paid only until accumulated funds are exhausted (although entitlements can be inherited when a customer dies before her/his funds have been completely paid out). As a result, clients bear the entire risk of interest rate instability and longevity of members (Shankar and Asher, 2009).

As illustrated in Chapter 5, health microinsurance also poses serious challenges. Health microinsurance generally refunds the costs of medical treatment to policyholders, irrespective of their income or assets. That means that for any given indemnification package the insurer expects to spend on average the same amount on the benefits provided to all policyholders. Consequently, it cannot sell the package to low-income clients at a lower price than that for high-income clients. At best, it can offer poor clients a slimmed-down package that does not cover certain illnesses, excludes very expensive medical treatments or is restricted to a certain maximum annual amount. Insurance is most effective when it covers very high expenditure: typically, many policyholders can provide for small expenses through their own savings. Nevertheless, for low-income clients a limited-benefits package that refunds at least some healthcare costs (e.g. only in-patient services) can still help in the absence of social health insurance schemes.

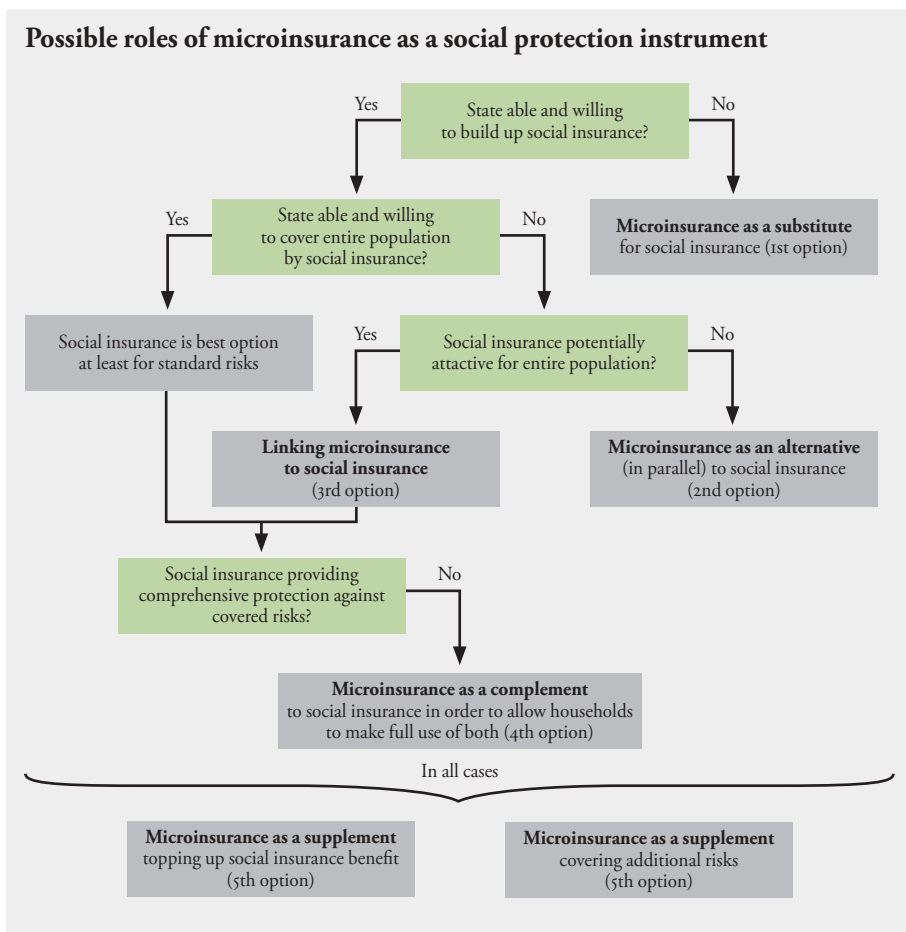
These considerations demonstrate how important it is to analyse the possible effects of microinsurance using a systemic approach to social protection. Only a holistic analysis can capture, for example, the interplay between health financing and healthcare provision. Health microinsurance makes no sense if healthcare services are not offered in the region concerned or if the services provided are of very poor quality. Additional attention must also be paid to the contractual arrangements and payment mechanisms agreed between microinsurers and healthcare providers (*see Chapter 6*). A holistic analysis is needed to serve the three public goals of equity, affordability and access to (quality) health services.

Furthermore, under normal circumstances microinsurance constitutes only a second-best option when compared with social insurance. Membership of the

latter can be prescribed by law, making redistribution among the insured possible. The same health insurance package can then, for example, be sold to poor and rich members alike, with payments made to poor members being partially financed by the contributions of the richer ones. Moreover, social insurance schemes give their members more legal certainty, as they are backed by the State, which must ultimately take responsibility for all liabilities.

Despite these limitations, microinsurance can be a useful approach to social protection in some very different settings, as illustrated in Figure 2.3.

Figure 2.3



First, as a substitute for social insurance: microinsurance can be an option where the State is unable or unwilling to build up social insurance schemes or does not want to extend them to those working in the informal economy. Under such circumstances, microinsurance can fill at least part of the widening gap that results from a lack of governmental action. The mutual insurance schemes in remote rural areas of Western and Central African countries are typical examples of such a strategy.

Second, as an alternative to social insurance: microinsurance can also play a crucial role where social insurance schemes do exist, but are not (and unlikely to become) attractive for all informal-sector employees. This may be due to the fact that the risks covered constitute a major threat only for workers in the urban formal sector, whereas farmers and workers in the informal economy are vulnerable to other types of risk. Likewise, the contribution rates may be too high or the payment procedures may not be appropriate for people with an irregular income. Furthermore, the population may mistrust the systems administered and organized by public institutions.

In these cases, microinsurance can be built up in parallel as an alternative to social insurance, with the result that households can opt for the kind of social protection instrument that best suits their specific needs and preferences, i.e. social insurance, microinsurance or traditional commercial insurance. For example, in Viet Nam, a few cooperatives offer health microinsurance despite the fact that every citizen not legally covered by the country's standard social health insurance scheme can enrol voluntarily at a moderate contribution rate in a separate social health insurance scheme, which is also run by the official social insurance corporation to meet the needs of people outside the formal economy (World Bank et al., 2007). Similarly, Ghana allows independent mutual health insurance schemes to co-exist with district health insurance schemes affiliated with the National Health Insurance Fund (*see Box 2.1*).

Third, it can be linked to social insurance: microinsurance can help even where social insurance is potentially attractive for the entire population. Some countries face difficulties in integrating informal-sector employees into their social insurance schemes even though – and this is in contrast to the second scenario described above – their enrolment in them would benefit the large majority of households in the country. The problem may be that the social insurance administration is unable to reach rural areas, serve informal urban settlements or convince low-income households of the merits of enrolment. Informal economy workers may also be reluctant to enrol because they are not sufficiently aware of their risks or mistrust the State. In Viet Nam, for example, many individuals do not enrol in the country's voluntary social health insurance unless they are suffering from serious health problems. In Tunisia, the number of informal-sector employees contributing to the social insurance scheme increased only after the Government added child allowances to the benefit package of the social insurance scheme. Previously, these had only been part of the benefit package for formal-sector employees and proved to be very popular among informal workers (*see Loewe, 2009*).

In cases such as these, social insurance corporations may consider cooperating with microinsurance providers, who act as their local agents. The task of these agents is to convince households of the advantages of enrolling in social insurance

schemes, foster trust in these schemes, register new members, collect their contributions and pay out benefits to them. For example, some years ago, Thailand considered extending the coverage of its voluntary social pension insurance to informal-sector employees in this way. To ensure that premium collection and benefit payment mechanisms are tailored for the target group, the social insurance administration recognized the advantages of cooperating with local agents – not just occupational organizations and trade unions, but also with microinsurance institutions.

In addition, new social insurance schemes can be built on the basis of existing microinsurance schemes, as in the case of Ghana's national health insurance system (*see Box 2.1*). The public social insurance entity can serve as an umbrella organisation that provides expertise and reinsurance to microinsurers and coordinates their activities. Furthermore, the umbrella organization can harmonize the benefit conditions of the affiliated schemes to create equal opportunities for all members. The microinsurance organization can then take on the role of an agent that acts as the local representative of the national social insurance entities. Finally, the microinsurance schemes can be fully integrated into the social insurance scheme.

Box 2.1

The National Health Insurance Act of Ghana

After independence, Ghana built up a tax-financed public health system providing essential health services free of charge to the entire population. However, in 1985, the Government introduced user fees in the health system as part of a broader structural adjustment programme. Equity in access to essential services deteriorated rapidly. As a consequence, more than 150 mutual health insurance schemes were founded between 1990 and 2003, mostly providing protection against the catastrophic healthcare costs for in-patient medical treatment for more serious illnesses.

In 2003, the Government announced the National Health Insurance Act, making it compulsory for all citizens to enrol with either 1) a district mutual health insurance scheme; or 2) a private commercial insurance scheme; or 3) a private mutual health insurance scheme. Existing mutual health insurance organizations had to choose whether to remain independent or to become a district scheme affiliated to the newly established National Health Insurance Fund (NHIF), which acts as both a reinsurer and the supervisor of the district schemes. In the latter case, the mutual health insurers must offer a fairly comprehensive package of services, including the reimbursement of at least 95 per cent of the costs of most in-patient and outpatient services and a number of drugs (i.e. with the exception of antiretroviral drugs, assisted reproduction, and cancer treatment). Their sources of funding include member contributions (a payroll deduction of 2.5 per cent for formal-sector employees and a flat premium of about €6 (US\$8.50) per annum for informal-

sector workers), donations, donor grants and a significant government subsidy financed by a special levy of 2.5 per cent on the sale of selected goods. In districts without any mutual health insurance scheme cooperating with NHIF, the Government itself established a mutual health insurance scheme.

Ghana thus provides an example of microinsurance schemes operating both as an alternative to the public social insurance scheme and being linked with it for mutual advantage.

In 2008, the district health insurance schemes affiliated with the NHIF covered 42 per cent of the urban and 36 per cent of the rural population. Poor households in particular refrained from enrolling in the system because contribution rates appeared to be too expensive. For this same reason, only about 20 formerly independent mutual health insurance schemes had linked themselves to the NHIF by 2007. Most others continued to offer much smaller benefit packages at much lower contribution rates. It should be noted, however, that these independent schemes covered an even smaller share of the population: 1.3 per cent in urban areas and 0.9 per cent in rural areas.

Nevertheless, the long-term solvency of the NHIF is at risk. Three-quarters of its spending is covered by the Government, while only a quarter is covered by member contributions. One reason for this is that only 38 per cent of all members actually pay their premiums. Children and very poor households are covered at no charge. In addition, the administration costs of the affiliated mutual health insurance schemes are rising, partly because the readiness of their members to manage their schemes for free vanished once they had to use uniform benefit packages and conditions imposed by the State.

Sources: Adapted from Gehrke, 2009; Lethourmy, 2010; Brugiavini and Pace, 2010.

Fourth, as a complement to social insurance: microinsurance can be crucial even where social insurance schemes cover the most serious risks faced by households. This is particularly true where social insurance only covers a part of the costs incurred due to the negative shocks associated with these risks. Viet Nam's social security organization, for example, runs an attractive voluntary social health insurance scheme for workers in the informal economy. Having said this, the scheme only reimburses health treatment costs and not the transportation costs incurred for a visit to a hospital. Hence, the package offered is almost worthless for poor households in remote rural areas because of high transportation costs. The Vietnamese Ministry of Labour, Insurance and Social Affairs (MOLISA) has therefore decided to support – in cooperation with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) – poor rural communities in setting up social risk funds that provide, among other things, compensation to their members for health transportation costs (*see Box 2.2*).

These funds and the national health insurance scheme are thus “complementary” in a very narrow sense of this word, as both would be obsolete for many rural households in rural Viet Nam without the presence of the other.

In the same way, microinsurance providers could cover the cost of essential drugs. Social health insurance schemes in many developing countries pay for all kinds of medical care, but often not for medication, which is particularly expensive. However, without drugs, many medical therapies are useless. So here again microinsurance can prove an effective complement to other health insurance arrangements.

Box 2.2

The Viet Nam social risk funds

Under the poverty reduction programme, GIZ supports MOLISA in developing and piloting social risk funds (SRFs) in four communes in Viet Nam. Their aim is to provide relief when certain events negatively impact households in the communities concerned and thus to reduce the vulnerability of the poor.

The SRFs are another far-from-perfect example of microinsurance, as they have been heavily subsidized and therefore are a type of social transfer programme rather than a microinsurance scheme. However, they are intended to reduce reliance on subsidies and illustrate how social insurance and other social protection schemes (those financed both by subsidies and by member contributions) can function as real complements.

The SRFs provide death benefits if either of a family's two main breadwinners dies, and reimbursement of the costs of transporting a patient to hospital and accommodation and food for one accompanying caregiver.

This list of benefits is based on target group preferences. Its composition can only be understood against the background of Viet Nam's public social insurance agency offering a comparatively cheap health insurance product, which covers most medical treatments, but not travel costs. The product is thus attractive for people living in towns, but less so for the inhabitants of remote areas who would have to travel a long way to make use of the health insurance package offered by the State. Buying it only makes sense in rural areas in combination with the SFR coverage.

The SRFs are financed by member contributions, government subsidies and the financial support provided by GIZ. Currently, about 70 to 80 per cent of the total cost of running the SRFs is covered by member contributions. This might be the reason why MOLISA and GIZ rightly avoid using the term “insurance” for these funds. However, contribution rates have already increased significantly over the last few years and should cover almost all expenditure in the near future.

Source: Adapted from GTZ, 2009.

Fifth, as a supplement to social insurance: in all cases, the role of microinsurance may also be to top up the benefits granted by social insurance schemes. This option may sound similar to the previous option (microinsurance as a complement). The difference is that in the former case, the presence of both microinsurance and social insurance are crucial for each to have a significant positive impact on the members. While here, microinsurance and social insurance simply cover different risks or different effects of the same risk, microinsurance may, for example, grant a supplementary pension to retirees. Or microinsurance may cover specific illnesses such as cancer or HIV/AIDS if they are excluded from the cover provided by commercial and social insurance schemes. However, their treatment is often excluded on the grounds that it is exceptionally expensive, and therefore cover might be too expensive for microinsurance. For example, a microinsurance scheme in Jordan, exclusively covering the treatment of cancer, has thus far attracted only middle- to high-income households, as low-income people consider premiums too expensive (Loewe, 2001).

In the same way, microinsurance may provide protection against risks that are currently not covered by social insurance, i.e. droughts, animal diseases, earthquakes, floods, typhoons and crop pests. These risks are not among those that international agencies, including the ILO, identify as the core household risks for which governments should provide social protection for their citizens. As a result, they are often neglected in social policy strategies, despite the fact that they may constitute a more serious threat to many people than many of those listed in the ILO's Social Security (Minimum Standards) Convention, 1952 (No. 102). One reason is that it is possible to manage risks such as old age, work disability or illness through financial pooling, even among rural communities, while weather-related risks are covariant, i.e. they affect all the people in a given region at the same point in time. In addition, it is perilous for an insurer to offer compensation for harvest failure due to weather events (e.g. drought, a severe cold spell or a flood) because the potential for moral hazard would be enormous: once farmers have signed a contract for harvest insurance, they have less of an incentive to ensure that their harvest remains good even when an extreme weather event occurs. In addition, they may exaggerate the extent of a harvest failure, and it would be difficult for insurers to detect such misreporting (Loewe, 2009b).

For this reason, many recently established weather insurance schemes are index-based (*see Chapters 4 and 11*). They cover only one or two risks that may lead to harvest failure, and compensation for insureds depends on an objective trigger that is easy to monitor. Many are thus deficit and excess rainfall insurance schemes rather than direct compensation for a farmer's actual loss in terms of harvest failure or loss of assets. For example, under the deficit rainfall insurance offered by the Horn of Africa Risk Transfer for Adaptation (HARITA) scheme in Ethiopia (*see Box 4.3*), benefits are granted to all policyholders within a region if in any single

year precipitation fails to exceed 50 or 70 per cent of its long-term annual average. Certainly, the indicators used by such insurance schemes are imperfect proxies for the losses incurred by farmers. Some may experience significant harvest losses even when precipitation is higher than 30 per cent of average levels, while others may have acceptable harvests even after droughts. The identification of an indicator that is easy to monitor and still a good proxy for harvest failure is, therefore, crucial for the attractiveness and success of weather insurance schemes (Gehrke, 2011).

2.4

Conclusion: The need for a systematic approach

This chapter shows how important it is to view microinsurance within a broader social protection framework. Microinsurance has the ultimate goal of providing social protection, i.e. reducing poverty and vulnerability through the provision of support to low-income households in their efforts to manage risks. However, it is just one of several options for reaching this goal, and not necessarily the most efficient one. Therefore the potential of microinsurance should always be assessed in relation to other social protection instruments: Can the goal of reducing the vulnerability of households against risks be better achieved by other social protection instruments? Does the building up of a microinsurance scheme undermine the attractiveness and financial viability of other, existing social protection schemes? In addition, microinsurance schemes should not be evaluated purely on the basis of technical criteria such as financial sustainability and rates of return, but also in terms of their impact on the poor and vulnerable groups in society.

The promotion of microinsurance should also be part of a systemic approach that is oriented towards the ultimate goal of protecting as many households in a country against as many of their risks as possible. From a social protection perspective, it is crucial to keep in mind that the benefits of microinsurance are often most effective when combined with other complementary social protection instruments such as social insurance or social cash transfers, and when it is embedded into a broader social protection framework. These linkages create synergies that maximize the potential of microinsurance as a risk management tool, especially for those population groups that are most vulnerable. Different segments of the population would be able to choose between several social protection instruments and to select the one that best fits their specific needs and preferences. The main question to be answered in each national context is, therefore, the role that microinsurance should play among the plethora of social protection instruments available.

What is the impact of microinsurance?

Ralf Radermacher, Heidi McGowan and Stefan Dercon

The authors would like to acknowledge useful comments on the earlier version of this chapter received from Aparna Dalal (ILO) and Dirk Reinhard (Munich Re Foundation).

Insurance is not an end in itself. Households purchase (and donors support the development of) microinsurance because they want to manage risks better. Does microinsurance improve risk management and reduce the vulnerability of low-income households? Does microinsurance improve the well-being of clients, their families and communities?

Based on a systematic literature review, this chapter takes stock of what we know so far about the impact of microinsurance on low-income households and their livelihoods. After defining impact and reviewing its importance, it describes the challenges involved in performing accurate impact evaluations and summarizes the currently available literature on the impact of microinsurance. Using insurance theory, it explains the expected impact of microinsurance and compares it to evidence from the literature. The chapter concludes with trends observed thus far and describes the remaining knowledge gaps in the hope of catalysing additional work in this field.

Most of the rigorous impact assessments available focus on health insurance in Africa and Asia. The evidence is mixed. There are robust findings proving that health microinsurance reduces out-of-pocket health expenditure and increases the utilization of healthcare services. Knowledge on other impacts and impacts of other products is limited. Given the complexity of health insurance, the insights presented below should be considered as a contribution to our understanding of microinsurance benefits, rather than an evaluation of whether health insurance can revolutionize protection against health shocks in developing countries.

What is impact?

Impact encompasses the changes that microinsurance makes to the economic or social circumstances of insured people or their households, enterprises or communities. It can be positive or negative, affect both insured and uninsured populations, occur either before, ex-ante, or after, ex-post, insured events happen, and have micro-, mezo- and macro-level implications, often in ways that are linked. For example, livestock cover can provide payouts that smooth household consumption ex-post after animals become sick or die, but can also

pre-emptively encourage households to reallocate money they may have saved for such emergencies to other more profitable ends ex-ante, before any problems occur. Similarly, health microinsurance can improve policyholders' health through increased access to care, which can additionally reduce local disease burdens and thus improve the health of nearby uninsured people too. As impact is multi-faceted and manifests itself in different ways, we need to be aware of each intervention's myriad potential effects and their relationships to each other.

3.1.1

Why is impact (and evaluating impact) important?

Impact defines the value of microinsurance for clients and by extension its worth to microinsurers. In the absence of impact (or the degree of impact that customers expect given the premiums they pay), people will neither purchase nor renew policies and the market will fail. Impact is therefore crucial to achieving profitability, as well as important poverty-alleviation objectives for commercial- and development-oriented microinsurance providers.

Impact analysis should also be discussed within the broader client value framework presented in Chapter 15, creating an iterative cycle whereby the analysis of product impact feeds back naturally into product and process design. A process of impact evaluation is designed to allow microinsurance products to be developed, refined and improved over time. In this respect, impact assessments complement other, often less rigorous, market research and client satisfaction studies that provide information for microinsurance product development. While the latter studies focus on improving impact, the impact assessments attempt to prove the impact of microinsurance.

Different stakeholders assess impact for a variety of reasons. Donors do so to gauge the success of funded projects and determine which prospective interventions to support. By contrast, governments evaluate impact to assist them in defining national policy and specific regulations. Investors want to ensure that their microinsurance investments are well placed to capture the market by providing value to clients. Lastly, microinsurers perform impact assessments to evaluate and improve their products' effectiveness. Taken together, impact and its evaluation are key to the successful development of microinsurance.

3.1.2 **How is impact assessed?**

The challenge of impact assessment is to properly attribute causality to the intervention in question (in this case insurance). For example, if a person purchased a health product and subsequently used more medical care, would the insurance cover be responsible? What if the price of clinic consultations had simultaneously dropped, or if the person's subscription had coincided with the beginning of the rainy season, and by extension the increased incidence of diseases such as malaria? Given these possibilities, the best way to determine impact involves studying the same person twice – once with insurance and once without – over the same period. Since this is impossible however, researchers use various techniques to select uninsured comparison groups to determine what would have happened in the absence of insurance.

However, choosing comparison groups is also difficult because a mere comparison of the results of insured and uninsured individuals, for instance, disregards characteristics that can influence both the insurance purchasing decisions and outcomes of the people in question. If those buying insurance are generally more ill, for example, they might use more medical care regardless – a phenomenon known as self-selection in impact analysis and adverse selection in insurance. Impact assessments that fail to take account of self-selection are susceptible to bias, or the systematic over- or under-estimation of an intervention's actual effects.

Impact evaluations must therefore create suitable control groups – a challenge that different study designs overcome with varying degrees of success. Randomized controlled trials (RCTs), for example, are considered in this respect the most rigorous approach available. By randomly allocating study subjects to receive insurance or not, RCTs distribute the observable and unobservable characteristics that could potentially influence the outcomes equally on average across the insured treatment group and uninsured control group, for sufficiently large sample sizes.

RCTs are often complicated, expensive and impractical to implement, and subsequently less robust techniques predominate instead. Of these, “quasi-experimental” approaches, which use statistical or econometric procedures to improve the affinity between comparison groups, are considered more rigorous.

However, the majority of currently completed microinsurance impact assessments merely contrast study subjects' results without correcting for the self-selection bias. As such – and even after using a method called regression analysis to take account of mitigating factors such as income, race or gender – they produce information that is susceptible to bias and thus have to be considered with caution.¹

¹ For a more in-depth discussion of research design for microinsurance impact assessment, see Radermacher et al. (2012).

3.2 The current literature

Since microinsurance is a relatively new intervention few impact assessment studies have been performed, which is exacerbated by a lack of standard indicators and research protocols for evaluating programmes.² Many of the existing studies also faced methodological problems that make it difficult to determine whether the reported effects were caused by the policies under consideration. These approaches include evaluations that merely compare the levels of variables of interest, such as the incidence of incurring catastrophic expenditure across groups of insured and uninsured individuals or households, which is extremely exposed to the bias described above. While some studies take account of extraneous influential factors such as levels of education, household incomes and the proximity to medical facilities using regression analysis, this is often not enough to establish the magnitude (or even direction) of the effects in question.

The studies presented here were selected because they were sufficiently rigorous impact assessments of microinsurance schemes. To qualify as sufficiently rigorous, only studies using a minimum of regression analysis were considered.³ Microinsurance is defined as the contractual protection of low-income people in developing countries against specific, pre-defined risks and in exchange for premiums (Churchill, 2006) – a definition with four facets that merit elaboration. First, low-income people are classified as those earning either less than two US dollars per day or half of a country's average per-capita annual income. Second, developing countries are those designated as such by the World Bank (2011a). Third, qualifying risks include cover for health, funerals, life, livestock, accidents, disability, property, natural and man-made disasters, and agriculture. And fourth, premiums are paid by the insured for a specific cover and term.

² In 2006, Pamela Young and co-authors proposed twelve intermediate and long-term indicators for evaluating health-related microinsurance schemes. While some of these measures were incorporated into subsequent studies, the microinsurance field still lacks generally accepted indicators for common use. Impact Working Group of the Microinsurance Network (2011a) is currently developing standard measures for health, agricultural, life, disaster, property and accident or disability-related microinsurance to correct this problem.

³ While efforts were made to locate all qualifying studies, the selection analysed in this chapter is not necessarily exhaustive. The authors would have preferred to include only experimental or quasi-experimental evaluations, but these were scarce at the time of publication.

The 21 evaluations that were retained for the final analysis and are discussed in this chapter assessed approximately 110 schemes, of which all but three were health insurance schemes. Nine studies assessed schemes in sub-Saharan Africa, three in the Indian sub-continent, four in China, four in South-East Asia and one in the former Soviet Union. All of the studies were published after 2000 and more than half either during or after 2008. This bias is due to the fact that health policies are easier to assess because they cover events that occur more frequently than the deaths of beneficiaries. Therefore, it is faster, and hence cheaper, to gather the volume of claims data necessary to perform accurate analyses of health insurance schemes.⁴ On the other hand, as described in Chapter 5, health insurance is also one of the most difficult products to deliver in a viable way. Consequently, the results presented below should be considered as a contribution to the sector's understanding of microinsurance benefits, rather than an evaluation of whether health insurance can revolutionize protection against health shocks in developing countries.

While the authors identified numerous other evaluations of Indian microinsurance offerings,⁵ these studies were not analytically robust enough to merit inclusion according to the selection criteria outlined above. Similarly, seven methodically rigorous evaluations of Latin American policies were located,⁶ but the schemes in question were all fully subsidized and thus were not considered in this review.

The increasing number of studies employing regression or more sophisticated analytical techniques parallels a growing trend towards determining the precise causal effects of anti-poverty interventions in the economic development community. Of the 20 current and on-going assessments of microinsurance schemes listed online by a stocktaking initiative of the Microinsurance Network's Impact Working Group, 16 use randomized controlled trials, which will vastly improve the availability of credible information on the impact of microinsurance (Impact Working Group of the Microinsurance Network, 2011b).

⁴ Interestingly, health scheme assessments are not immune to the attribution problems that plague evaluations of other types of microinsurance. If measures of subscribers' health status fail to improve after they have purchased a micro-health policy, for example, both the product itself and the quality of its benefits package could potentially be responsible. Put another way, increased access to health care will not provide dividends if the scheme's contracted doctors are poorly-trained or under-equipped.

⁵ Devadasan et al., 2004; Devadasan et al., 2007; Dror et al., 2009; Ranson, 2002; and Ranson et al., 2006.

⁶ Barros, 2008; Fitzpatrick, Magnoni and Thornton, 2011; Gakidou et al., 2006; Galarraga et al., 2008; King et al., 2009; Thornton et al., 2010; and Trujillo, Portillo and Vernon, 2005.

Hence, this chapter considers primarily market-based health insurance in Africa and Asia. The evidence is mixed. There are robust findings proving that health microinsurance reduces out-of-pocket health expenditure and increases the utilization of healthcare services. Knowledge on other impacts and impacts of other products is limited. Unless otherwise specified, too little information is available to draw conclusions about the presence, direction and magnitude of the impacts considered. Interestingly, as presented in Box 3.1, a parallel review of subsidized (social) health protection schemes yielded very similar results.

Box 3.1

Impact of social health insurance schemes

Acharya et al. (2011) summarizes the literature on the impact of subsidized health insurance schemes that have been offered, mostly on a voluntary basis, to the informal sector in low- and middle-income countries. A substantial number of papers have provided estimations of the average intention-to-treat effect on those insured. In this review, only those papers that took into account the problem of self-selection in insurance were selected and a few that estimated the average intention-to-treat effect. In general, the take-up of the insurance schemes is in many cases less than expected and the evidence of impact on utilization, protection against financial risk and health status inconclusive. However, once taken up, a few insurance schemes afford significant protection against incurring high out-of-pocket expenditure. Many of the schemes provide lower protection for the poorest. More information is needed to understand the reasons for low enrolment and why the insured poor do not seem to have consistently lower out-of-pocket expenditure than those who are uninsured. Summarizing the literature was difficult due to the lack of (i) uniformity in the use of meaningful definitions of outcomes that indicate welfare improvements and (ii) clarity in how selection issues were taken into account.

3.3

Expected and observed impact of microinsurance

According to insurance theory, microinsurance works – like all insurance – by replacing “the uncertain prospect of losses with the certainty of making small, regular premium payments” (Churchill, 2006). This is because individuals want to “smooth” or balance their consumption across different “states of nature” or possible real-world outcomes such as health, sickness, abundant harvests and droughts. For example, when comparing the experience of one year of excessive consumption and one year of starvation, most individuals would choose – and purchase insurance to secure – two years of average consumption. This is because excessive consumption does not increase satisfaction (or what economists call utility) as much as starvation lowers it (Gruber, 2007).

By equalizing consumption across variable states of nature, microinsurance provides policyholders with four main categories of possible benefits: financial protection, access to services, psychological effects and impact on the community. Financial protection is two-fold, occurring both ex-post when microinsurance cushions households from the economic implications of actualized risks, and ex-ante when it permits the reallocation of resources to more effective and profitable uses. Access to services, on the other hand, encompasses the beneficiaries’ ability to efficiently utilize insurance, the quality of benefits provided and changes to related outcomes like health status or school enrolment rates. Psychological effects comprise changes to subscribers’ emotional well-being such as developing feelings of empowerment or peace of mind. And finally, impact on the community includes spill-over effects that concern the entire population living in areas where microinsurance is provided, for example creation of jobs or improved healthcare infrastructure. Across these categories, microinsurance is believed to affect people by introducing new benefits and displacing or reducing the need to pursue traditional, but theoretically less efficient, risk management strategies.

Table 3.1 overleaf summarizes the framework and outlines the main results from the 21 studies, which are presented in more detail in the following subsections.

Table 3.1

Impact assessment framework and evidence from studies reviewed

Author(s)	Year	Scheme	Type	Countries	Financial protection				Access to services			Community impact
					Expenditure	Raising funds	Income/consumption smoothing	Asset accumulation/resource allocation	Waiting times	Utilization rates	Health status	Type/quality of care
Aggarwal	2010	Yeshasvini	Health	India	o/-	+	+		o	+		+/o
Cai et al.	2009	n.a.	Livestock	China				+				
Chankova et al.	2008	32 West African schemes	Health	Ghana, Mali, Senegal	+/o					+/o		+/o
Diop et al.	2006	32 West African schemes	Health	Ghana, Mali, Senegal	+/o					+/o	+/o	+
Franco et al.	2008	Four Equity Initiative schemes	Health	Mali	+					+	+/o	+
Gine and Yang	2007	n.a.	Weather index	Malawi				—				
Gnawali et al.	2009	Nouna Health District Scheme	Health	Burkina Faso						+/o		
Gumber	2001	VimoSEWA	Health	India	o							+
Jowett et al.	2004	Vietnam Health Insurance	Health	Viet Nam						+		+
Jütting	2004	Four "mutuelles"	Health	Senegal	+					+		
Lei and Lin	2009	New Cooperative Medical Scheme (NCMS)	Health	China	o					+	+/o	+/o
Morsink et al.	2011	PAID Plan	Natural disaster	Philippines	+/o	+						
Msuya et al.	2004	Community Health Funds	Health	United Republic of Tanzania						+		
Polonsky et al.	2009	Nine Oxfam-funded schemes	Health	Armenia						+		+
Ranson	2001	VimoSEWA	Health	India	+					o		
Schneider and Diop	2001	54 community health schemes	Health	Rwanda	+					+		
Sepehri et al.	2006	Vietnam Health Insurance	Health	Viet Nam	+							
Smith and Sulzbach	2008	32 West African schemes	Health	Ghana, Mali, Senegal	+/o					+/o		
Wagstaff et al.	2009	New Cooperative Medical Scheme	Health	China	+/o/—					+/o		+
Wagstaff and Pradhan	2005	Vietnam Health Insurance	Health	Viet Nam	+		+			+/o	+/o	
Yip et al.	2009	Rural Mutual Health Care, NCMS	Health	China						+/o	+	

Note: The results relating to equity are not included for the reasons discussed in the text.

3.3.1**Financial protection**

Financial protection occurs when microinsurance safeguards low-income households from using inefficient coping mechanisms in response to shocks and stress. These mechanisms can include depleting savings and additional supplies of goods like food and livestock, selling valuable and sometimes income-generating possessions, borrowing at typically high interest rates, adjusting labour supply, altering purchasing and consumption patterns, engaging in reciprocal mutual support practices, capitalizing on self-help group memberships and withdrawing children from school to generate the resources necessary to handle the shocks involved.

As such, microinsurance is primarily aimed at preventing undesirable events from exacerbating and entrenching policyholders' poverty. The extent to which microinsurance reduces the need for people to employ these coping mechanisms is explored below, both directly and as measured by three commonly assessed ex-post financial protection metrics: expenditure on goods and services, raising funds and the ensuing changes to people's income and consumption-smoothing patterns.

Besides reducing reactive measures taken by households in crisis, the financial protection provided by microinsurance theoretically allows individuals to proactively make decisions that improve their incomes and standards of living. These include choices related to asset accumulation and resource allocation. Regarding asset accumulation, individuals are believed to be more likely to purchase productive goods, such as ovens or tractors, when the financial repercussions of losing or breaking them are mitigated.

Similarly, microinsurance is believed to encourage "households to allocate resources to more profitable ends (which were previously precluded for being too risky)" (Morduch, 1995). For example, in the absence of agricultural insurance, farmers hedge against uncertainty by planting a variety of crops that can survive diverse weather conditions. Thus, if particularly poor weather ruins a portion of the harvest during the growing season, farmers will still be in a position to sell or consume. While this arrangement protects them from growing a single crop that fails completely or falling victim to a collapse in commodity prices, it also prevents people from growing more of the most high-value items or from achieving economies of scale in purchasing crop inputs—circumstances which microinsurance is supposed to alleviate.

In this context, labour is thought to be another allocable resource, with low-income people engaging in several income-generating activities to manage uncertainty in the absence of insurance. Therefore, if flour prices soar or rains make the roads impassable, for example, bakers and taxi drivers can rely upon other lines of work. While these arrangements are appropriate if risks are unmitigated, they prevent people from maximizing their incomes and productive output and therefore present another conduit through which microinsurance can impact clients.

Expenditure

Indicators of microinsurance's impact on policyholders' expenditure, including out-of-pocket (OOP) and catastrophic spending, provide key measures for financial protection. Besides coinsurance and deductibles paid to obtain covered goods and services, OOP costs encompass charges incurred while accessing these benefits, including transportation, bribes, and related products and procedures, such as drugs and laboratory testing that are not insured. OOP costs exclude the value of opportunities (like paid labour) forgone while accessing insurance cover because they constitute direct monetary outlays. Similarly, they are calculated after policies are purchased and do not include premiums.

OOP expenditure becomes catastrophic when it absorbs a considerable amount of annual household income (often defined as 10 per cent).⁷ While frequently used in the context of expensive hospitalization, this measure is applicable to all insurable risks, including death, disability, theft and disasters. When microinsurance absorbs the costs of these events, it reduces or avoids the incidence and depth of the resulting outlays and accompanying descent of households into (deeper) poverty.

Twelve of the reviewed studies examined the effects of microinsurance on OOP spending: of these, six, three and three found unambiguously positive, mixed positive and insignificant, and completely insignificant results, respectively. In the positive category, for example, Jütting (2004) detected a 45 to 51 per cent decrease in OOP spending among the policyholders of four Senegalese community-based health insurance organizations ("*mutuelles*") in comparison to non-members. Conversely, among the mixed results, Chankova et al. (2008) found that while Ghana's Nkoranza scheme and those Senegalese *mutuelles* which provided in-patient coverage significantly reduced members' hospitalization costs, neither the *mutuelles* nor four of Mali's Equity Initiative plans protected clients against OOP expenditures incurred for outpatient care (the Ghanaian and Malian policies did not provide outpatient and in-patient care benefits, respectively) – a result the researchers attributed to coinsurance rates ranging from 25–50 per cent per visit. Of the wholly insignificant findings, meanwhile, Wagstaff et al. (2009) determined that China's New Cooperative Medical Scheme (NCMS) had no statistically significant effect on average household OOP expenditures – a result confirmed by each of Lei and Lin's (2009) five estimation strategies and attributed by Wagstaff's team to "narrow cover and high coinsurance rates".

⁷ There is some debate on what parameters most accurately capture catastrophic expenditure: researchers for the World Health Organization, for example, define catastrophic costs as exceeding 40 per cent of a household's "capacity to pay", which in turn constitutes total household income minus subsistence expenditure (Xu et al., 2003).

Evidence of microinsurance's impact on the incidence and extent of catastrophic expenditure is conversely scarce. Of the studies considered here, only Wagstaff et al. (2009) ascertained that while China's New Cooperative Medical Scheme reduced the occurrence of catastrophic spending among its poorest tenth of subscribers, it increased the incidence amongst members in deciles 3 to 10, an observation they attributed to supply-side factors like price schedules that incentivized the provision of costlier high-tech care.

Mobilizing funds

Three of the well-documented ways that low-income people raise funds to afford the OOP expenses following adverse events are selling assets, depleting savings and borrowing (Lim and Townsend, 1998). While selling assets, particularly productive ones, reduces future income and/or consumption, each of these techniques further slows households' progress out of poverty and lowers their ability to absorb future uninsured shocks and can perpetuate these problems across generations if the loan cannot be repaid easily or quickly. By enabling policyholders to mitigate the effects of unfortunate events without resorting to these practices, microinsurance is believed to protect their assets and savings. Schemes that provide cashless claims arrangements (see Chapter 6) instead of reimbursing the insured are believed to be more effective in this respect because they eliminate the need to pay out a lump sum before the insurance reimburses the cost of the service.

Since just two studies have analysed microinsurance's impact on raising funds, it is hard to provide a conclusive answer. Aggarwal's (2010) investigation of India's Yeshasvini scheme found that subscribers borrowed approximately 30 to 36 per cent less to finance surgery than their uninsured counterparts. With the inclusion of asset sales, Yeshasvini's lower-income policyholders were additionally determined to borrow and sell at a statistically significant 61 per cent less to fund their use of primary health care (*see Box 3.2*). Similarly, an assessment of a Filipino typhoon re-housing scheme by Morsink et al. (2012) found that it mitigated the extent to which policyholders pursued coping strategies that included selling assets and exhausting savings after typhoons damaged their homes.

Box 3.2

Impact of “Yeshasvini” Health Insurance Programme in India

Aggarwal (2010) evaluated the Yeshasvini scheme that provides voluntary health microinsurance to members of rural cooperative societies and their families in India's Karnataka state. Its benefits include surgery, free outpatient consultations and discounted laboratory tests when ill. At the time of Aggarwal's research, its 2.7 million members paid annual premiums of US\$2.40 for cashless coverage of up to US\$4 000 available in a network of 349 specially-selected hospitals. The plan is administered by a tripartite alliance of public, private and cooperative sector organizations and subsidized by the state government and private contributors.

The main evaluation question was: How does the Yeshasvini scheme impact out-of-pocket expenditures, fund mobilization, income and consumption smoothing, healthcare utilization rates and treatment outcomes? Aggarwal used a quasi-experimental technique called propensity score matching, whereby uninsured comparison households are individually matched to participating households based on their probability of enrolling given the presence of particular observable characteristics (like earnings and years of education). This approach reduces bias by creating more comparable treatment and control groups, but does not account for the effects of self-selection based on unobservable factors (like risk-aversion or engagement in unsafe activities). The study used a sample of 4 109 randomly-selected households covering 21 630 people in 82 villages in rural Karnataka state.

In the event of surgery involving catastrophic expenditures, Yeshasvini subscribers borrowed 30 to 36 per cent less than uninsured patients and spent up to 74 per cent less from sources including personal incomes and savings. Besides a higher incidence of surgery, member households reported 6 to 7 per cent more medical consultations concurrent with a 19 per cent reduction in the share of visits made to public facilities. While treatment outcomes varied according to members' socio-economic status, no appreciable impact on maternal health care was detected (possibly because the scheme did not historically cover deliveries). Perhaps most interestingly, average annual income growth (over the prior three years) was determined to be significantly higher among policyholding households.

Source: Adapted from Aggarwal, 2010.

Income and consumption smoothing

Adverse events and the need to raise funds to meet related OOP expenditure can affect households' patterns of income and consumption in several ways. Many shocks, such as the illness or death of breadwinners or income-generating livestock, the theft or breakdown of productive assets and the destruction wrought by disasters, can curtail earnings while imposing the twin challenges of both coping with the expense of the events in question and continuing to meet on-going household needs. Under these circumstances, low-income people take a range of undesirable actions such as eating less or less nutritious food. By reducing the financial burden of shocks, microinsurance aims to enable policyholders to maintain their incomes and standards of living in times of crisis. Microinsurance can also stabilize, and in some instance even increase, subscribers' incomes and subsequent consumption in other ways. If cover improves members' health or the productivity of livestock or equipment, for example, through better access to health or veterinary care or information on optimal maintenance, the people, animals or products in question might be capable of producing more or higher-quality goods and services.

Two papers provide support for these presumed effects. Aggarwal (2010) estimated that the average annual income growth of households covered by Yeshasvini's health microinsurance scheme was significantly higher than that of their uninsured counterparts over a three-year period. Wagstaff and Pradhan (2005) determined that Vietnam Health Insurance (VHI) increased policyholding households' consumption of non-medical goods, such as food and education, and the "use value" of consumer durables.

Asset accumulation and resource allocation

Regarding the ex-ante financial protection impact of microinsurance, researchers have also studied the intervention's effects on potential asset accumulation and resource allocation. While Cai et al. (2009) attributed policyholders' increased acquisition of sows to a Chinese government livestock insurance scheme, Gine and Yang (2007) concluded that rain-indexed insurance reduced Malawian farmers' take-up of loans for purchasing higher-yielding hybrid maize and improved peanut seeds (*see Box 3.3*) – an unexpected outcome given that microinsurance is intended to encourage riskier, but presumably more profitable, production decisions.⁸

⁸ Here, the distinction between borrowing under stress (to raise funds after the occurrence of shocks) and borrowing pre-emptively to facilitate investment should be noted.

Box 3.3

Insurance, credit and technology adoption in Malawi

In their study *Insurance, credit and technology adoption: Field experimental evidence from Malawi*, Gine and Yang (2007) evaluated a scheme, which was created specifically for the study and discontinued afterwards, that bundled weather index-based coverage with loans to purchase higher-yielding maize and groundnut hybrid seeds. The policy paid a proportion (or the totality) of the loan's principal and interest, depending upon the rainfall in each of the growing season's three phases (planting, flowering and harvest). It was priced at actuarially fair rates based on historical local meteorological information and underwritten by the Insurance Association of Malawi.

The main evaluation question was: Does the provision of microinsurance against a major source of production risk (rainfall) encourage farmers to borrow to adopt riskier but potentially more profitable crop technologies? Half of the study subjects were randomly selected to be offered credit for purchasing higher-yielding maize and groundnut hybrid seeds. The remaining half were offered the same credit package, but bundled with weather index-based insurance that partially or fully forgave the loan in the event of poor rainfall. The sample consisted of 787 maize and groundnut farmers in 32 localities in central Malawi.

Surprisingly, the take-up of uninsured loans was 13 percentage points higher. The researchers offered a number of potential explanations for this observation, including the limited liability inherent in stand-alone loan contracts, farmers' lack of familiarity with growing hybrid seeds, perceptions of different default costs across the two credit packages and basis risk. In contravention of insurance theory, microinsurance purchasing was additionally negatively associated with farmers' self-reported risk-aversion and positively with their levels of education, income and wealth.

Source: Adapted from Gine and Yang, 2007.

Income and consumption

Gine et al. (2009) shed light on the unexpected finding from Malawi with their examination of participation rates in a weather-based index insurance policy in Andhra Pradesh, India. Contrary to theoretical predictions, risk-aversion significantly decreased smallholders' demand for microinsurance – a finding the authors attributed to “household uncertainty about the product” coupled with resource constraints typically faced by low-income families. If accurate, this observation suggests that the effects of microinsurance regarding asset accumulation and resource allocation might take longer to materialize, whereas more risk-seeking, or possibly wealthier, households initially experiment with microinsurance products

and share important information on them throughout their communities. To improve the impact of policies within a shorter timeframe, microinsurers can speed the adaptation process in various ways. For example, Gine et al. (2008) noted that the most quantitatively significant predictor of take-up was the households' familiarity and prior experience with the microinsurance provider, in this instance a microfinance institution called BASIX.

3.3.2 Access to services

Microinsurance is believed to have several basic effects in terms of access to services. Foremost among these is improving policyholders' and beneficiaries' ability to obtain covered benefits quickly and cost-effectively, which in turn theoretically increases service utilization rates. Second, for health-related cover, higher utilization rates mean potentially better health outcomes, an important achievement given that healthier people can work longer hours, command higher salaries, enjoy increased immunity and more easily acquire human capital through learning. Third, health microinsurers often contract with, or otherwise encourage policyholders to use, modern medical providers, which is further believed to bolster health outcomes by enabling them to bypass traditional, religious and "quack" healers.⁹ Since microinsurers sometimes negotiate service standards with selected providers in advance, place customer advocates in hospitals, build new facilities and employ skilled personnel for their clients' use, they are similarly assumed to facilitate the provision of higher-quality care. Finally, by improving low-income people's access to these services, microinsurance is also thought to increase equality both spatially and between economic and gender groups.¹⁰

While these effects have been almost exclusively researched in a healthcare context, they are also applicable to other insured risks. For example, minimizing waiting times for and increasing utilization rates of veterinary services can be key aspects of livestock policies.

⁹ Of 35 health policies assessed by the "Good and Bad Practices" project of CGAP's Working Group on Microinsurance, for example, only two – Sri Lanka's Yasiru and Bangladesh's Society for Social Services – are reported to cover treatments offered by traditional practitioners (in this case, Ayurvedic healers and Bangladeshi "dai" birth attendants, respectively: Enarsson and Wiren, 2006; Ahmed et al., 2005).

¹⁰ Spatial equality relates to the accessibility of services for those located at different distances from the points of service provision. People living closer to a hospital, for instance, might have easier access and thus higher utilization rates than those living far away – a classic example of spatial inequality. By incentivizing the most distant clients with lower premiums, transportation subsidies and telemedicine (among others), microinsurance schemes can correct these imbalances and promote more consistent utilization across geographic regions.

Utilization rates

By removing cost and other barriers to accessing covered goods and services, microinsurance theoretically encourages and thus increases clients' utilization of these benefits. In contrast, due to factors ranging from the unavailability of funds to non-functioning transportation options, uninsured individuals may delay or completely forgo seeking solutions even when their situations become dire.

The impact of microinsurance on utilization rates is evaluated fairly frequently. On the basis of this evidence, it appears that microinsurance improves policyholders' utilization rates for health-related plans. Sixteen studies reported positive findings or mixed positive and insignificant findings, whereas only one study had insignificant findings. Among the affirmative results, for example, Msuya et al. (2004) determined that policyholders of the United Republic of Tanzania's Community Health Fund were 15 per cent more likely to seek formal care than their uninsured counterparts. Similarly, Polonsky et al. (2009) found that members of nine Oxfam-operated Armenian schemes visited health posts with 3.5 times the frequency of non-members.

Of the studies with mixed findings, Smith and Sulzbach's (2008) assessment of the maternal health service utilization patterns of members of 27 Senegalese *mutuelles*, four Malian mutual health organizations and Ghana's Nkoranza Health Insurance Scheme found that membership was associated with significantly higher use of prenatal and delivery care in Mali. While policyholders of Senegalese schemes that provided baby delivery cover were more likely to have facility-based births, the *mutuelles* did not appreciably increase already high rates of prenatal care-seeking; neither did the Ghanaian plan, which only covered Caesarean sections. Contrasting results were also obtained by Gnawali et al. (2009) in an assessment of Burkina Faso's Nouna District Health Scheme. While the overall increase in outpatient visits given illness was 40 percentage points higher among subscribers, this increase was only significant among the richest quartile of policyholders. In his data on India's VimoSEWA Ranson (2001) could not show any significant difference in the probability of insured being hospitalized. Interestingly, Diop et al. (2006) uncovered unexpected collateral effects among microinsurance plan members. Although Ghana's Nkoranza plan did not cover outpatient care, the researchers calculated that subscribers increased their consumption of such services nonetheless.

Despite being one of the most commonly assessed indicators, experts debate whether increased utilization unequivocally demonstrates the positive impact of microinsurance. Poorly designed microinsurance schemes can encourage moral hazard or adverse selection, while improved use of services by policyholders could instead represent the misallocation of resources and crowding-out of access to people with more legitimate needs. Others argue that increased subscriber

utilization rates, initially at least, represent the resolution of long-term lack-of-access issues for newly insured low-income people (Schneider and Diop, 2001).

Waiting times

Reduced waiting times for accessing covered benefits can limit the effects of shocks across insurable risks. When households have health cover, for example, they can forgo the potentially lengthy process of raising funds to seek care more immediately when ill, which limits the duration and financial repercussions of the issues in question. The composition of benefits is key in this respect. For example, if plans only cover hospitalization, households may eschew seeking medical attention or turn to cheaper and less effective interim strategies like self-medication until their problems become exacerbated enough to warrant hospital admission. Ultimately, situations like these result in problems of longer and more expensive duration and thus in inefficient resolution.

Limited number of studies examined this issue. For example, Aggarwal's (2010) analysis of the Yeshasvini scheme found that "the waiting time before the first appointment with a doctor did not appear to have been affected by insurance".

Health status

Health microinsurance promises to improve policyholders' health. As health status is relatively difficult and expensive to measure objectively, proxy indicators are often used (Thomas and Frankenberg, 2002). Only one study assessed the effect of microinsurance on direct indicators of health. Wagstaff and Pradhan (2005) used anthropometric measurements from the national Living Standards Survey and determined that Vietnam Health Insurance significantly affected the height and weight of young children and the body mass index of adults.

Several other papers used substitute measurements for health status, including study subjects' self-reports and commitment to health-promoting behaviour. For example, Lei and Lin (2009) estimated that enrollees in China's New Cooperative Medical Scheme (NCMS) were a significant 2.8 per cent less likely to report feeling ill. In Mali, Franco et al. (2008) similarly determined that while enrolment in four Equity Initiative policies did not appear to influence the use of child vaccinations or vitamin A supplements, it was a significant predictor of the use of mosquito nets by children and pregnant women.

Type and quality of care

Other commonly used, but also indirect, measures of health status include microinsurance's impact on the type and quality of care received. Since modern (allopathic) medicine is widely believed to produce better health outcomes than the traditional or alternative care options available to many low-income people, the effect of microinsurance on subscribers' utilization of modern providers is

also measured.¹¹ In their evaluation of China's NCMS, for example, Lei and Lin (2009) indicated that members made less use of traditional Chinese folk doctors. Similarly, Yip et al. (2009) found that membership in China's Rural Mutual Health Care reduced the probability of self-medication when sick by about two-thirds. Policyholders of Mali's Equity Initiative programmes sought modern care to treat fevers at 1.7 times the rate of their uninsured counterparts (Franco et al., 2008). Chankova et al. (2008) established that Equity Initiative subscribers were considerably more likely to seek modern care for a range of medical problems. However, they could not prove that similar patterns observed among Senegalese *mutuelle* clients were statistically significant, a result confirmed by Diop et al. (2006). While admittedly limited, this evidence suggests that microinsurance has a positive impact on members' use of modern medical treatment.

In places where certain kinds of facilities are believed to provide poor services, where policyholders seek care is a proxy for access to services. In India, for example, Aggarwal (2010) found that Yeshasvini's members made 19 per cent fewer visits to public providers despite their care being largely free, a change that was attributed to the poor services, absenteeism and corrupt practices in government hospitals. Among insured households, clear evidence of increased use of private health services was noted. However, not all microinsurance policies allow subscribers this freedom. In an assessment of Vietnam Health Insurance (VHI), Jowett et al. (2004) observe that plan beneficiaries were almost three times as likely as uninsured individuals to use public providers, precisely because the treatments covered by VHI were available in government facilities.

Unfortunately, the only study that examined the impact of microinsurance on quality-of-care measures used an extremely small sample size in which the comparison groups, insured and uninsured individuals, differed significantly from each other on measures like age distribution and surgical history. Based on a small household survey and interviews with lead doctors of Uplift India's network and non-network facilities, examination of patient records and assessment the facilities' infrastructure, Bauchet et al. (forthcoming) did not find statistically significant evidence that patients insured by Uplift received better care.

Equity

A further hypothesized impact of microinsurance regarding access to services involves equity, and the belief that well-designed policies can address historic, economic, spatial, and gender disparities in the provision of insured goods and services by extending access to members of excluded groups.

¹¹ Here, "modern providers," "modern medicine" and "modern care" denote healthcare professionals whose qualification, recognition and performance are government-regulated and thus (although by no means universally) likely to be of higher quality.

Two dimensions are important for this analysis: who accesses insurance and who receives its benefits (both among policyholders themselves and between policyholders and non-policyholders). The income level is the determinant most often studied.

While equitable enrolment and access to services among members do not constitute impact as defined above, they are explored below as equitable access to the insurance is a precondition for potential benefits reaching the poor. To avoid confusion, none of the results reported in this sub-section are included in Table 3.1.

Of the evaluations considered for the review, ten reached mixed conclusions about the economic egalitarianism of enrolment across schemes. Interestingly, the two with unambiguous positive findings both assessed India's VimoSEWA scheme, with Gumber (2001) and Ranson (2001) reporting that wealth did not significantly predict membership.

Other results were more nuanced: across 27 Senegalese *mutuelles*, four Malian Equity Initiative policies and Ghana's Nkoranza scheme, for example, Chankova et al. (2008) established that while the probability of enrolment was significantly higher among those in the top income quintile, there was no evidence that the probability of enrolment for the poorest quintile is different than that for the other four quintiles grouped together. In a more detailed analysis of the Malian Equity Initiative plans, Franco et al. (2008) reached similar conclusions: "while enrolment for all categories ... was significantly higher in the rich household wealth quintile, enrolment rates did not differ between the poor, middle poor, middle or middle rich households". Still, Jütting (2004) and Msuya et al. (2004) conclude that income levels unequivocally and significantly influenced enrolment in four Senegalese *mutuelles* and the United Republic of Tanzania's Community Health Fund (CHF). Msuya and colleagues, for instance, showed that a one percentage point increase in household income raised the probability of joining CHF by approximately 12.5 percentage points. While Jütting indicated that even households in his sample's richest quintile still earned below the area's monthly minimum wage, these results indicate that certain schemes could potentially target a more inclusive client spectrum in their regions of operation.

Regarding the use of covered services, five out of six studies reported egalitarian or even progressive arrangements. Aggarwal (2010), for example, reported a significant 2 per cent increase in the intensity of healthcare use among Yeshasvini lower socio-economic status members. Similarly, Schneider and Diop (2001) concluded that the clients' probability of visiting did not significantly vary by income quartile after taking account of other factors when assessing 54 Rwandan community healthcare schemes. In Viet Nam, Jowett et al. (2004) actually observed that lower-income clients used insured services more frequently, presumably to resolve issues that had long gone unaddressed. Wagstaff et al. (2009) alone found unevenly (and regressively) distributed changes to utilization rates

among members of China's NCMS. More specifically, they could not discern among the poorest 10 per cent of the scheme's subscribers the significant positive impact on outpatient or in-patient care-seeking behaviour that was evident among members in other income deciles. Despite the results from the latter study, the evidence tentatively suggests that, with the barrier of joining behind them, scheme members enjoy some degree of economic equality in accessing benefits.

Of the studies evaluated here, five examined spatial equity through enrolment and utilization rates. Regarding enrolment, for example, Chankova et al. (2008) performed regressions to determine that the presence of nearby health facilities positively influenced microinsurance enrolment in Senegal and Mali, which was not addressed in surveys involving Ghana's Nkoranza scheme. Similarly, Wagstaff et al. (2009) used probit analysis to establish that "households living far away from facilities are less likely to enrol" in China's NCMS, but noted that "increasing distance reduces the probability only up to a point". Regarding utilization, similar results were obtained among Equity Initiative members; for instance, Franco et al. (2008) found that distance to the health facility was a significant negative predictor for healthcare seeking, particularly regarding assisted deliveries. In Rwanda, Schneider and Diop (2001) also established that members of 54 community schemes visited providers directly according to their geographical ease of access. While limited in number, these results suggest that the policies under consideration have not effectively addressed distance-based discrepancies in access to insurance and service utilization.

Evaluators have studied two key questions relating to gender inequities: how microinsurance enrolment and access to services varies by gender, and whether plans that cover women's health concerns result in better outcomes by gender than have been historically obtained. Regarding the first issue, researchers have reached varying conclusions on the rates at which women, or households headed by females, purchase microinsurance. In Ghana, Mali and Senegal, Chankova et al. (2008) determined that households headed by females were more likely to enrol after taking account of other factors, while in Rwanda, Schneider and Diop (2001) could find a statistically significant effect. Wagstaff et al. (2009) established that the gender of a household's head was unrelated to its likelihood of joining China's NCMS. Schneider and Diop (2001) were the only ones to disaggregate members' care-seeking behaviour by gender and they found that the probability of visiting a provider did not vary by sex for policyholders in Rwanda.

In terms of women's health outcomes the results were likewise mixed, Aggarwal (2010) found no appreciable impact of India's Yeshasvini scheme on maternal health care, while Franco et al. (2008) observed that members of Mali's Equity Initiative were twice as likely to make four or more prenatal visits as women in

the overall population when pregnant. Smith and Sulzbach (2008) found that scheme membership most effectively influences maternal health-seeking behaviour when the applicable services are covered as benefits. Because these results were obtained in the context of prevailing cultural norms and other factors, directly comparing them is difficult.

While the evidence remains inconclusive and contradictory about whether microinsurance mitigates economic disparities in respect of scheme membership and possibly also access to care, several points merit discussion. First, equity effects demonstrate the importance of determining the distribution of impact alongside the more commonly calculated “average treatment effect on the treated”. This indicator establishes the average causal differences in outcomes between the treatment and control groups (Heckman et al., 1997). However, interpreting and comparing equity-related evaluation results can be difficult. For example, after observing that households headed by females were more likely to enrol than those headed by males in Ghana, Mali and Senegal, Chankova et al. (2008) speculated that factors related to women’s traditional status as family caregivers may have produced these findings. Without additional information, researchers cannot determine what caused these observations or whether they actually represent change.

Second, the initial findings suggest that achieving equity is more complicated than merely accommodating, or even actively encouraging, the participation of specific client groups. Barriers to registration, accessing benefits and submitting claims must often be specifically addressed to make policies more egalitarian. While enrolment, utilization rates and beneficiary outcomes differ along economic, spatial or gender lines, this does not mean that microinsurance is discriminatory or provides poor value for low-income, rural, female or other traditionally excluded clients. Schemes could be poorly designed, marketed or administered, and thus unintentionally perpetuate divisions. Interestingly, during their evaluation in Mali, Chankova et al. (2008) discovered that 71 per cent of uninsured individuals had not enrolled because they had never seen the scheme’s promotional materials. In other words, despite being lower-income people, they did not join because they did not know that the plan existed.

Finally, the treatment of equity presented by the papers analysed here is incomplete in several ways. Besides economic, spatial and gender-related disparities, for example, historical inequalities between people of different ages, races, colours, ethnicities, religions, sexualities and levels of disability, inter alia, can merit exploration based upon the circumstances under which specific plans operate. Additional design-related questions also deserve study, such as whether specific delivery models (for example, community-based or for-profit) are more conducive to achieving equity among policyholders (and between policyholders and community members overall).

3.3.3 Psychological effects

Psychologically, microinsurance is thought to promote increased peace of mind and individual empowerment. As regards peace of mind, for example, microinsurance hypothetically alleviates fear and stress by increasing members' sense of security about the future. Policyholders involved with community-based schemes, through which local people design and administer benefit packages themselves, might further be empowered by the bargaining, communication, social and financial skills that they develop while participating. Unfortunately, none of the studies considered here assessed either of these presumed effects.

3.3.4 Community impact

Microinsurance is believed to cause six types of spill-over effect that impact non-members in microinsurers' wider communities of operation. While these outcomes are described below, none of the studies cited here assessed them unless specified.

- **Job creation** – The most visible manifestation of a microinsurance-related spill-over effect is job creation. Simply put, microinsurers need sales people, actuaries, plan administrators, claims adjudicators, premium collectors, IT providers and personnel such as doctors and meteorologists to create, implement and oversee their product range. Since some plans have millions of policyholders, the amount of employment generated is potentially significant, though many microinsurers also, and sometimes exclusively, rely on volunteers.
- **Investment** – Similarly, the premiums collected by microinsurers can be saved or invested either locally, for example, in microinsurers' related microcredit activities, or in national and international markets. This effect is more likely with long-term policies that have savings components (*see Chapter 8*).
- **Infrastructural and regulatory changes** – Uninsured community members benefit from infrastructural and regulatory changes that microinsurers help create. For example, Aggarwal (2010) noted that the shift to private providers precipitated by India's Yeshasvini scheme created space in public facilities for uninsured individuals. Similarly, Wagstaff and colleagues (2009) determined that China's New Cooperative Medical Scheme had a significant impact on staffing and capital investments at township-level providers. However, given their observation of supply-side moral hazard, they were concerned that "increased stocks of expensive equipment" might result in "patients ... getting tests and treatments that are medically unnecessary, or which the [health centres are] insufficiently skilled to deliver".
- **Changing local disease burdens** – Highly subscribed health-related plans are also thought to reduce local disease burdens and produce potential collateral behavioural changes among uninsured individuals in their regions of operation. For

example, Polonsky et al. (2009) established that the healthcare utilization rates of uninsured people increased in Armenian villages. Yip et al. (2009) similarly found that non-members in Rural Mutual Health Care's regions of operation engaged in less risky self-medication.

- **Group solidarity** – Because of the emphasis on group solidarity and cooperation, community-based plans are further believed to increase community cohesion. However, by supplanting traditional coping mechanisms, which strongly rely on established family and social ties, microinsurance might also undermine local practices and relationships.
- **Financial literacy** – Through their activities microinsurance providers and related organizations are thought to increase overall financial literacy and nurture an insurance culture in their areas of operation. For example, many microinsurers and advocacy institutions host public insurance information events tailored to potentially illiterate low-income people with little formal education. BRAC, for instance, trains members to create street performances about real-world stories they collect from villagers that illustrate the benefits of insurance (Ahmed et al., 2005). Individuals also absorb information from microinsurers' marketing materials and hear word-of-mouth spread from policyholders through their extended social and family networks. Thus, the expansion of microinsurance hypothetically enables even uninsured people to develop an awareness and understanding of risk management tools and principles.

3.4

Conclusion

Few studies, and still fewer methodologically rigorous ones, have explored the impact of microinsurance. The vast majority assess health-related policies predominantly in Asia and sub-Saharan Africa. The evaluations presented examine a variety of outcomes, but only three with the frequency necessary for trends to emerge: expenditure, utilization and equity. Of these, microinsurance tentatively seems to positively affect expenditure and utilization rates. It appears to perform less successfully vis-à-vis issues of economic and spatial egalitarianism, however, insofar as households with relatively low economic status or dwellings remote from the relevant facilities enrol and claim benefits less frequently. Taken together, though, and in comparison to microinsurance's many assumed effects, this is extremely sparse evidence.

A combination of four steps will improve the development community's understanding of microinsurance's impact. First, more robust research designs and analytical techniques are necessary to increase the validity of assessments' results. As attested by the more recent studies presented here and those listed from taking stock of on-going assessments (Impact Working Group of the Microinsurance Network, 2011b), there fortunately appears to be movement in

this direction. Second, evaluations of a broader variety and geographical distribution of microinsurance products are required. Third, studies must examine the full range of microinsurance's theoretical effects, together with comparative issues that remain unexplored. These include investigating how different microinsurance schemes compare under a variety of conditions, and how they fare in comparison to or in combination with other risk-mitigating strategies such as informal coping mechanisms. Fourth, improved and standard outcome indicators are needed because not all of the commonly cited effects in the evaluation literature presently communicate useful information on impact. Besides being less ambiguous, newly developed indicators must likewise be widely adopted to facilitate the comparability of findings and by extension the strength of subsequent systematic reviews. The Microinsurance Network's Impact Working Group is developing these indicators and will disseminate them in a handbook for performing microinsurance impact assessments (Impact Working Group of the Microinsurance Network 2011a).

By facilitating the creation and distribution of accurate information on the impact of microinsurance, these steps will enable development practitioners to successfully enable low-income people in poor countries to manage risks and thus safeguard or increase their incomes and standards of living.

Microinsurance and climate change

Thomas Loster and Dirk Reinhard

The authors would like to thank Joachim Herbold of Munich Re, Karlijn Morsink from the University of Twente, Birgit Schubert from Albert Ludwig University, and David Saunders from the ILO for their contributions to this chapter. They also wish to thank Asif Dowla (St Mary's College), Thomas Mahl (Munich Re), Alexandra Michailescu (Credit Suisse), Dan Osgood (IRI), Rupalee Ruchismita (CIRM) and Roland Steinmann (MicroInsurance Centre) for their comments.

The year 2010 went down in history, along with 2005 and 1998, as the warmest year since instrumental climate records were introduced, with new record high temperatures being regularly recorded all over the world (WMO, 2010). According to the Intergovernmental Panel on Climate Change (IPCC), over the next 100 years the mean temperature of the atmosphere is set to increase significantly, by up to 6.4°C in the worst-case scenario, with higher sea levels and an exacerbation of weather extremes (IPCC, 2007, 2011).

The loss statistics of insurers and evidence emerging from experts, including the Centre for Research on the Epidemiology of Disasters (CRED), are already showing strong trends indicating that global warming will lead to risk situations deteriorating in many parts of the world, especially developing countries. Data for natural catastrophes since 1980 show that more than 80 per cent of fatalities caused by weather-related disasters were in developing and newly industrializing countries.¹ Within developing countries, poorer regions are particularly at risk due to weak infrastructure. For example, the poor often live in sub-standard housing in exposed locations, such as on the margins of settlements where they are vulnerable to flash floods, landslides or storm surges.

The insurance of natural hazards is a particular challenge for insurance companies because of the exposure to major damage (Swiss Re, 2010a). Natural events often affect huge areas and can devastate thousands of square kilometres of land. This quickly leads to an accumulation of losses and possible solvency problems for insurers.

Microinsurance is also vulnerable to natural disasters and must acknowledge the risks associated with them. Although earthquakes have had a major impact on some microinsurance schemes, such as Alternative Insurance Company (AIC) in Haiti in 2010 and India's VimoSEWA in 2001, this chapter focuses on disasters that are becoming more frequent and more powerful due to climate change. An example of this was Cyclone Nisha, which hit India in November 2008 and required Bajaj Allianz to settle some 16 000 microinsurance claims (Kunzemann, 2010).

¹ See, for example, CRED (EM-DAT), Swiss Re's Sigma or the Munich Re NatCatSERVICE.

This chapter begins by reviewing some of the key data associated with climate change to illustrate the emerging risks, particularly in developing countries where microinsurance is taking root. It then considers the role of microinsurance in weather-related risks, at the micro, meso and macro levels, as illustrated by numerous examples from around the world. The third section summarizes the key operational challenges including accessing and managing data, designing indices and managing claims. Section 4.4 provides a series of recommendations for key stakeholders.

4.1 The impact of climate change

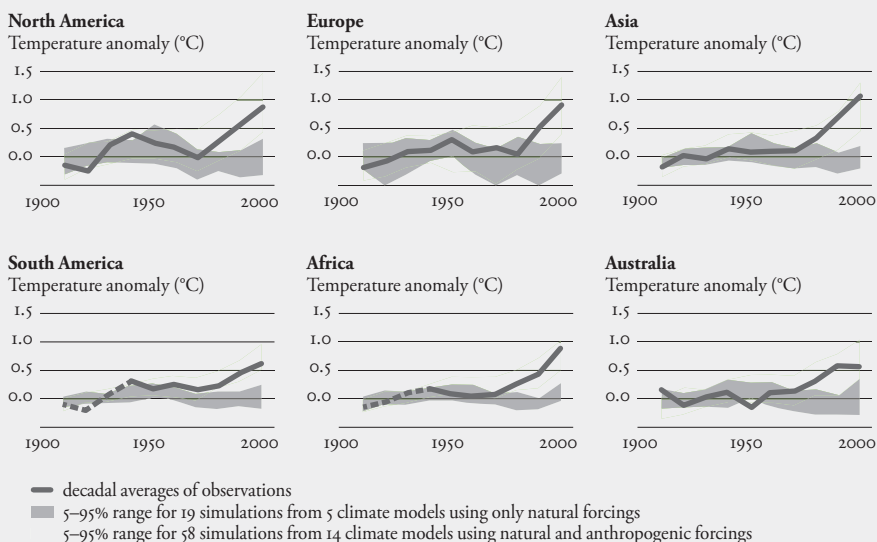
4.1.1 Evidence of climate change

According to the IPCC, temperature trends worldwide are pointing in the same direction: up (IPCC, 2007):

- Temperatures have risen on all of the world's continents in the last 100 years (*see Figure 4.1*), in some cases significantly.
- Human influence on climate change is largely demonstrable.
- Warming is particularly strong in high latitudes.

Figure 4.1

Global and continental temperature change¹



¹ In this figure, the black lines show the actual change in temperatures on six continents. The grey space depicts the range where temperatures should have been found based purely on natural changes, while the green band shows the temperature ranges based on the impact of human and natural factors on the climate.

As summarized in Table 4.1, significant changes such as increases in the incidence of droughts and cyclones appear imminent, which will have a huge impact on local and regional risks. The high levels of scientific validation in the table are noteworthy. Thus, “very likely” means that the level of scientific certainty is over 90 per cent. “Likely” means greater than 66 per cent and “More likely than not” means greater than 50 per cent.

Table 4.1

Projections of extreme weather and climate events

<i>Phenomenon and direction of trend</i>	<i>Likelihood that trend occurred in late 20th century (typically post 1960)</i>	<i>Likelihood of a human contribution</i>	<i>Likelihood of future trends based on projections for 21st century</i>
Warmer and fewer cold days and nights over most land areas	Very likely	Likely	Virtually certain
Warmer and more frequent hot days and nights over most land areas	Very likely	Likely (nights)	Virtually certain
Warm spells/heat waves. Frequency increases over most land areas	Likely	More likely than not	Very likely
Heavy precipitation events. Frequency (or proportion of total rainfall from heavy falls) increases over most areas	Likely	More likely than not	Very likely
Area affected by drought increases	Likely in many regions since 1970s	More likely than not	Likely
Intense tropical cyclone activity increases	Likely in many regions since 1970	More likely than not	Likely
Increased incidence of extreme high sea level (excludes tsunamis)	Likely	More likely than not	Likely

Source: Adapted from IPCC, 2007.

To date, meaningful evidence for countries, regions or even cities is available only in individual cases. For example:

- intensification of heat waves in the United States (Peterson et al., 2008), Australia (Bureau of Meteorology Australia, 2011) and Europe (Robine et al., 2007);
- increase in extreme precipitation in the United States (US Climate Program, 2008) and in India (Munich Re, 2010).

So far, there has been limited quantitative analysis of the world’s poorer countries because time series weather data are often not available. Descriptions of the impact on climate are impressive nonetheless. Africa, for example, is a frequent victim of drought. In Ethiopia alone, around 600 000 people died in the 1970s and 1980s, and about seven million were exposed to long periods of drought. Across the continent today, drought remains a major challenge. In 2011, Chad, Malawi, Mozambique, the Sudan and the Horn of Africa struggled with extreme drought, and UN scientists expect climate change to further exacerbate such extremes.

In many regions, global warming will alter the frequency and intensity of weather events. This is particularly clear in the case of tropical cyclones. For example, warmer sea surfaces can lead to the development of more intense tropical cyclones as these storm systems draw their energy from warmer water. If areas with sea surface temperatures above 27°C expand, new risk zones for cyclones will be created. The appearance of cyclones off the coasts of Brazil (2004) and Spain (2005) are evidence that the range of the risk is changing in the wake of global warming.

4.1.2

Classes of business affected

The climate cannot be insured. It is also impossible to insure all the effects associated with global warming. This is true of both traditional and microinsurance. The melting of glaciers or the accelerated rise in sea level cannot be insured based on the insurance principles of unpredictability, calculability and sudden occurrence. However, some effects of climate change, such as floods or even droughts, are insurable.

When discussing insurance and climate change, one often means the insurance of weather-related catastrophes, which are very likely to increase in the future. Natural catastrophes can be particularly detrimental to microinsurance portfolios, as small or regionally focused portfolios can be devastated by a major natural disaster. Natural hazards, such as the wave of flooding in Pakistan in 2010 or Cyclone Nargis in Myanmar in 2007 that devastated huge areas, have to be taken seriously in microinsurance.

The impact of climate change also affects other insurance business lines, as summarized in Table 4.2. The biggest correlation between weather and losses is in agriculture insurance, as discussed in detail later in the chapter. However, hundreds of thousands of people might die or be injured in extreme weather events, so there is also an impact on health and life insurance. Buildings or their contents can also be affected by weather events. Cyclones (in Southern India in 2008) and typhoons (in the Philippines in 2010) have shown that a weather disaster can be a challenge for property and buildings microinsurance covers, which are often not developed for weather events, let alone climate change.

While natural disasters are certainly the most urgent threat, changing climatic conditions will also have more subtle, long-term effects. Gradual increases in temperature, for example, can affect germination periods or determine which crops can be grown in certain regions. They also will affect mortality and morbidity, by changing the ranges of different diseases or creating the conditions for new ones.

Table 4.2

Possible effects of climate change in classes of insurance, 2030–2050

<i>Insurance class</i>	<i>Possible effects</i>	<i>2030</i>	<i>2050</i>
Agriculture	Rapid-onset (weather catastrophes)	+/++	+++
	Slow-onset (temperature changes)	+/++	+++
	Frost	—	—
Health	Rapid-onset (weather catastrophes)	o/+	o/+/++
	Slow-onset (temperature changes)	o/+	o/+/++
	Health patterns, expanding disease ranges	o/+	o/+/++
Life/Funeral	Rapid-onset (weather catastrophes)	+	+
	Slow-onset (temperature changes)	o/+	+
Property	Rapid-onset	+/++	++
+/++/+++	increasing risk		
o	neutral		
-/-/---	decreasing risk		

Source: Adapted from Munich Re Foundation, 2011.

4.2 Microinsurance and weather events

4.2.1 Brief history of “climate microinsurance”

Climate change has a major impact on weather conditions – weather being the present state of the temperature, humidity, rainfall and wind, while climate is the state of these weather elements over time. Consequently, most microinsurance experiences that are relevant in the context of climate change are protection against the occurrence of specific weather conditions, typically measured by some sort of index.

Weather-index or parametric insurance has been developed in the context of microinsurance since the beginning of the 21st century. The first known example was introduced in Mexico in 2001 to provide drought cover for farmers. Since then, several covers have been introduced in Asia, beginning with a rain-based index insurance in India in 2003 (*see Box 4.1 and section 20.2*) and a livestock insurance in Mongolia in 2006 (*see Box 12.3*). In Africa, drought insurance was introduced in Malawi in 2005 (*see Box 4.2*) and Ethiopia in 2006. These covers were subsequently adjusted or further developed, and new ones were added (e.g. HARITA in Ethiopia in 2008, *see Box 4.3*).

Box 4.1

ICICI Lombard's rainfall index cover, India*Hard facts***Start:** 2003**Scale:** Micro**Model developers:** ICICI Lombard General Insurance Company, World Bank, International Finance Corporation (IFC), BASIX**Risk carriers:** ICICI Lombard, Swiss Re**Risk covered:** Any kind of crop**Number of clients:** 25 000 farmers in 2005, 45 000 in 2007, 250 000 in 2009**Distribution channels:** initially BASIX, a microfinance NGO; later other banks and MFIs were also included*Context*

Despite its long history of crop insurance, the Indian Government has failed to protect farmers against weather risks. In 2003, ICICI Lombard and BASIX introduced crop-specific, index-based rainfall insurance for castor and groundnut farmers. The product was restructured in 2004 to further enhance the benefits of the farmers insured and to cover other types of crops. The new contracts were based on a cumulative rainfall trigger specified for each of the three growing seasons. Farmers can purchase the policy per acre, protecting up to 100 per cent of their land. Each crop has its specific upper and lower threshold. Accumulated rainfall below or above the threshold triggers a payout. The policy was sold through the BASIX network as a combined loan-insurance product.

Challenges

Financial viability: Depends on the take-up of the product by the farmers and access to the international reinsurance market. State subsidies and the link to a government-sponsored agriculture loan programme substantially enhance scale and viability (*see Chapter 18*).

Demand: Higher premiums than the state-run National Agriculture Insurance Scheme (NAIS) product – the absence of subsidies limits demand from small-holders. This situation changed dramatically when government subsidies were made available for weather-index insurance, including cover offered by private insurance companies.

Client awareness: Awareness-raising campaigns by BASIX and intensive interaction help adapt the product to the farmers' needs and raise demand.

Basis risk: The World Bank installed digital weather stations. A limited number of weather stations can increase basis risk.

Preliminary lessons learned

1. A combined product (credit plus insurance) protects farmers and the MFI against loan defaults due to crop failure, which helps the product quickly attain scale.
2. Automatic weather stations enable the insurer to have access to data in real time, which facilitates faster claims payments.
3. Efficient restructuring of the contract design broadens the scope of potential clients that benefit from rainfall policies, e.g. agribusiness intermediaries.
4. Continuous adaptation to clients' needs builds a basis for sustainability.
5. Government subsidies make the product more affordable, allowing the scheme to go to scale.

Sources: Adapted from Hellmuth et al., 2009; Levin and Reinhard, 2007; Valvekar, 2007; Aggarwal, 2011.

Most of these examples remain in their pilot stage, or have been discontinued because they struggled to achieve sufficient scale to be viable. Clarke (2011) argues that the low take-up for index-based agriculture insurance is not necessarily related to lack of trust or financial illiteracy, but is simply an economically rational choice where the price is above a certain threshold compared to the expected payout. In addition, many currently available weather-index insurance products show low correlation with actual losses, warranting better indices with lower basis risk.² However, even indemnity-based products may have little effect on the risk management of the poor if the product does not properly reflect the target group's perception of risk (Karlan et al., 2011).

By contrast, the experience in India seems more promising. In 2010, India's weather-index insurance market was the second largest weather market in the world, following only the United States. As described in Chapter 20, innovations in weather-index insurance developed by the private sector have been embraced by the Indian Government, which now provides premium subsidies to make credit-linked cover more affordable to low-income farmers. Consequently, in 2011, more than nine million Indian farmers had index insurance cover (Ruchismita, 2011).

² Basis risk, defined in more detail in section 4.3.2, is the difference between the actual losses incurred by the insured and the amount of benefit that they are actually paid.

The involvement of reinsurers is particularly critical to the success of such schemes, since they pool risk at a global level. In Asia, experts from Munich Re developed concepts suitable for typical climate-change risks, including a flash-flood cover in Jakarta, Indonesia, and a “typhoon cover” for torrential rain and wind in the Philippines. Swiss Re introduced an index cover for rice farmers in Viet Nam, a country particularly affected by climate change. According to its developers, the programme should reach 500 000 households (Lai, 2010).

Box 4.2

Drought insurance, Malawi

Hard facts

Start: 2005

Scale: Micro

Model developers: World Bank, International Research Institute for Climate and Society (IRI), MicroEnsure

Risk carrier: Insurance Association of Malawi

Risk covered: Drought

Number of clients: 1710 groundnut and maize farmers (2006 to 2007); 2 500 tobacco and maize farmers (2008 to 2009)

Distribution channel: National Smallholder Farmers' Association of Malawi (NASFAM)

Context

As 90 per cent of crop production in Malawi is rain-fed, smallholders are highly vulnerable to weather-related risks. Productivity is low, as farmers have limited access to credit to buy drought-resistant seeds or invest in better technology. In cooperation with NASFAM, the World Bank designed index-based drought insurance that would protect groundnut farmers against lack of rainfall and improve access to credit. Two MFIs, Malawi Rural Finance Company and Opportunity International Bank Malawi, were willing to provide loans. NASFAM provided access to improved seed input, guaranteed to buy its members' harvest at a higher-than-market price and ensured loan recovery. Loan contracts included a weather premium that was paid to a risk pool managed by the insurance association. Farmers agreed to sell their harvest exclusively to NASFAM. They received no cash in advance and instead NASFAM used the proceeds of the harvest to repay the loan and pay the surplus to the farmers. The product was expanded to include maize and, as of 2007/08, it has moved to the tobacco sector instead of groundnuts.

Challenges

Financial viability: Financially stable, as no on-going subsidies included, but limited affordability for the poorest farmers. Side-selling by farmers to traders other than NASFAM threatened financial viability and the programme therefore moved from groundnut production to the tobacco sector.

Demand: The product has been difficult to sell to low-income farmers due to its price, so take-up has been slow.

Client awareness: Training of field staff is needed to provide financial literacy workshops to the population. Where policies are in place, clients tend to understand the concept of index insurance.

Basis risk: Insufficient number of rainfall stations; the World Bank and the Earth Institute are installing digital weather stations to overcome this constraint.

Preliminary lessons learned

1. Infrastructure challenges can be tackled by drawing on the financial and technical capacities of all project partners.
2. Cooperation among key stakeholders (insurance companies, farmers' associations, MFIs) expands the range of financial products available for the rural population.
3. The existence of organized markets (e.g. NASFAM) is crucial for distributing insurance policies.
4. Combining insurance with loans increases the efficiency of insurance delivery.

Sources: Adapted from Hellmuth et al., 2007; Mapfumo, 2009; Agroinsurance, 2011.

Box 4.3

HARITA (Horn of Africa Risk Transfer for Adaptation), Ethiopia*Hard facts***Start:** 2008**Scope:** Micro**Model developers:** Oxfam America, Swiss Re, IRI, Relief Society of Tigray (REST)**Risk carriers:** Nyala Insurance Ethiopia, Swiss Re**Risk covered:** Drought**Number of clients:** 200 households in 2009, 13 000 in 2011**Distribution channel:** Partner-agent model with Dede-bit Credit and Savings Institution (DECSI)*Context*

In Ethiopia, 85 per cent of the population rely on smallholder, non-irrigated farming for their livelihood. The people are therefore highly vulnerable to drought-related risks. Initially targeting *teff* farmers in the village of Adi Ha, the index insurance product was linked to the Government's employment generation scheme, and therefore allowed farmers to pay the premiums either in cash or in kind by contributing labour to projects that increased the community's resilience to climate change. Farmer participation is assured by a management team of five village members and financial literacy workshops. To overcome data limitations, new techniques such as satellite data or simulation models are being explored.

Challenges

Financial viability: Low, as the HARITA project is mainly funded by international donors.

Client awareness: Focus on farmer participation from the very beginning, e.g. local management team, workshops on financial literacy or experimental games.

Basis risk: Exploration of new techniques such as satellite data or rainfall simulators is intended to overcome weather data limitations.

Preliminary lessons learned

1. Education and exposure to microinsurance, increased access to credit and improved risk management techniques are necessary for vulnerable populations to adapt effectively to the changing climate.
2. Provision of clearly needed insurance in poor communities was hindered by the inaccessibility of formal financial services.
3. Concerns of scale can be dealt with by using a model that focuses on weather insurance in the context of subsistence farming.
4. Innovative approaches to premium collection such as paying premiums in kind makes insurance accessible to everyone, including chronically poor sub-

- sistence farmers, where corresponding employment generation schemes are available.
5. Collaboration of local, national and global stakeholders contributes to successful results.
 6. Client participation and education are crucial for the sustainability and later scale-up of insurance products.
 7. Drought-related risks are a primary concern throughout Ethiopia where 85 per cent of the population is dependent on smallholder, rain-fed agriculture. Even highly-exposed areas such as Ethiopia can be insured against key risks, e.g. heat waves or droughts.

Sources: Adapted from Hellmuth et al., 2009; Agroinsurance, 2011; Swiss Re, 2010a.

4.2.2 **Micro, meso and macro**

Insurance can be organized in different ways and at different levels – from individual direct insurance to the state-organized insurance of large groups of people – as illustrated in Table 4.3. By definition, microinsurance may only be applicable at the micro level. However, insurance organized at the meso- or macro-levels can be a more relevant way of protecting the poor against risks associated with weather and climate change. The inclusion of meso- and macro-level interventions enables insurance to cover not just farmers and agriculture risks, but also to be relevant to protecting other target groups from disasters.

Table 4.3

Dimensions of insurance: Scale, products, beneficiaries

	<i>Micro</i>	<i>Meso</i>	<i>Macro</i>
Insured	Individual, group of people, up to several hundred people	Larger community, associations, cooperatives, etc.; thousands to millions of people	Nation/government, hundreds of thousands to several million people
Geography	House, village, town, districts	Districts, regions	Regions, country
Tools and products	Microinsurance: health, life, property, crops, livestock; index insurance	Derivatives, index insurance	Catastrophe bonds, pools
Range of sum insured	US\$50–5 000	US\$200 000 to several million	US\$ millions to billions

Source: Adapted from Munich Re Foundation, 2007.

Thousands of people are insured through meso-level covers. Beneficiaries are often organized in trusts, associations or cooperatives. Box 4.4 provides an example of an index-based meso solution, which started in 2011 to cover the loan losses of cooperatives in the Philippines in the event of extreme weather events and enables the affected borrowers to start again. The cooperative insurer CLIMBS acts as the risk carrier and thus covers the portfolios of its

member cooperatives. The payout is not related to the individual loss adjustment, but depends on defined thresholds for the weather event. Each cooperative receives a pre-defined percentage of its loan portfolio as a payout once a certain wind or rainfall trigger has been reached. The cooperatives insured will then use these funds to make favourable emergency loans available to affected borrowers.

Box 4.4

CLIMBS (Coop Life Insurance and Mutual Benefit Services), Philippines

Hard facts

Start: 2011

Model developers: Munich Re, CLIMBS

Scale: Meso

Insurance type: Wind and rain index insurance to cover loans

Risk covered: Typhoon

Risk carriers: CLIMBS, Munich Re

Clients: Member cooperatives of CLIMBS (umbrella organization)

Distribution channel: CLIMBS

Challenges

No evaluation yet.

Preliminary lessons learned

1. Even complex weather risks such as typhoons or extreme events such as flash floods can be insured if appropriate product design is in place.
2. Pre-existing social structures, e.g. cooperatives or associations, increase the likelihood that a scheme will be successful.
3. Dialogue with people at risk is crucial for tailor-made solutions.
4. Regional payouts help product acceptance and reduce the basis risk.
5. The use of modern weather observation methods like satellite data broadens the range of tools and facilitates administration.

Source: Authors.

Morsink et al. (2011) identified several of these meso-level index schemes, covering both the idiosyncratic risks of clients and the aggregated risks of aggregators. The emergence of these efforts, in Burkina Faso, Ghana, Haiti, India, Mali and Peru (*see Box 4.5*), indicate an increasing interest in such an approach to protecting the poor, to expand the scope of who can be covered, beyond farmers, to include microentrepreneurs and other low-income groups. Although most meso-level schemes are relatively new, their potential for viability and scale seems quite promising.

Box 4.5

MiCRO (Microinsurance Catastrophic Risk Organization), Haiti

Hard facts

Start: 2011

Scale: Meso

Model developers: Local insurance providers and MFIs, such as Fonkoze

Funding: Inter-American Development Bank (IDB), UK Department for International Development (DFID), Mercy Corps, Caribbean Risk Managers Ltd, Guy Carpenter & Company, LLC, Swiss Agency for Development and Cooperation (SDC)

Risk carrier/Reinsurer: Swiss Re

Risk covered: Rainfall, wind speed or seismic activity

Number of clients: 55 000 Fonkoze microcredit clients

Cover: Reimbursement of Fonkoze loan in the event of natural disaster. A lump sum of US\$125 is provided if home or premises are destroyed, or all or most of their business stock is lost as a result of a natural disaster.

Distribution channel: Fonkoze loan officer

Context

Following the 2008 hurricane season in Haiti, Fonkoze realized that sustaining MFI operations would become difficult if natural disasters were to be recurring. Fonkoze actively started looking for financial protection against natural disasters and started organizing MiCRO to help Caribbean (especially Haitian) MFIs protect their clients against damages from natural disasters. Besides providing cover at the meso level, the innovation combines parametric cover based on rainfall, wind speed or seismic activity, plus an assessment of actual losses on the ground by the loan officers. If there is basis risk – if the payout based on the parametric trigger is not sufficient to cover actual losses – then MiCRO will cover the difference, up to US\$1 million per year.

The importance of this financial protection was illustrated by the earthquake in Haiti on 12 January 2010, which killed more than 200 000 people and left the country in a shambles, with future generations even more vulnerable to risk. For

the extended rains that occurred in Haiti during May and June 2011, a parametric-only payout of US\$1.05 million was made to Fonkoze. Fonkoze independently assessed borrowers' damage and paid out US\$1.01 million to over 3 800 clients, including loan write-offs. Fonkoze's microloan clients have all been informed of and received training in the catastrophic insurance cover.

Challenges

Hazard: Haiti is exposed to various natural hazards with significant loss potential. Earthquakes and hurricanes, as well as heavy rain, tend to occur from time to time.

Basis risk: MiCRO covers 85 per cent of estimated basis risk up to US\$1 million per annum on annual aggregate basis.

Preliminary lessons learned

1. Public-private partnerships are a necessity for protecting the poor against natural disasters.
2. Insurance targeted at low-income populations can be offered in a region significantly exposed to natural hazards.
3. Insurance can both offer protection for an MFI and create value for its clients.
4. Parametric covers can be supported when funding is available to absorb mismatches between the parametric cover and real losses experienced.
5. Training of clients is important. Fonkoze's borrowers have all been informed of and received training in the catastrophic insurance cover.

Source: Adapted from Morsink et al., 2011.

The "macro" dimension can involve millions of people, and is typically organized at a national or international level. Important systems are found in the Caribbean, where the first risk pool insures the governments of 16 Caribbean countries against hurricanes and other disasters (*see Box 4.6*). The poor are intended to benefit from this cover, but it is the governments that are insured. In Mexico, the state-organized *Fondos* have been insuring farmers since 1988 (*see Box 4.7*), although these tend to be richer farmers. Access for small farmers continues to be difficult.

Box 4.6

Caribbean Catastrophe Risk Insurance Facility (CCRIF)

Hard facts

Start: 2007 after 18-month development

Scale: Macro

Model developers: Caribbean Community (CARICOM) Heads of Government, World Bank

Risk carriers: CCRIF, international reinsurers including Swiss Re, Munich Re, Paris Re, Partner Re and Lloyd's of London syndicate Hiscox

Risk covered: Hurricane, earthquake, excess rainfall

Number of clients: 16 countries

Financial background: Capital from donors (~US\$65 million) and annual premium (US\$200 000 to US\$3 million) by member countries

Distribution channel: Caribbean Risk Managers Limited (CaribRM)

Context

Following the huge losses caused by Hurricane Ivan in 2004, the Caribbean Community Heads of Government, with the help of the World Bank, decided to implement a risk transfer programme for member countries to mitigate the effects of natural disasters. Started in 2007, CCRIF insures its 16 member countries against earthquakes, hurricanes and excess rainfall. Country risk profiles were created based on historical data to determine each country's premium. Once a predefined level of shaking, wind speed or amount of rain is reached, payout occurs within 14 days.

Payouts to date:

2007: ~US\$1 million to the islands of Dominica and St Lucia

2008: ~US\$6.3 million to the Turks & Caicos Islands

2010: ~US\$7.75 million to Haiti (earthquake) and US\$12.8 million for Hurricane Tomas (Barbados, St Lucia, St Vincent and the Grenadines); US\$4.2 million for Hurricane Earl (Anguilla)

CCRIF is unique, as it is the first index insurance scheme linking various countries that have different levels of development and different risk exposure.

Challenges

Complexity: Pooling the risk of 16 countries raises the complexity of the product due to individual risk profiles and calls for increased communication and public relations regarding awareness-raising among member countries.

Financial viability: The combination of the pooled reserves of the participating countries and the financial capacity of the international financial market ensures sustainability, but mostly due to relatively low payouts compared to actual damage.

Demand: Tool for climate-change management as money flows for faster relief, but only at governmental level, no involvement of population.

Other: Need to address agricultural sector, as CCRIF provides greater value to areas of economic value (major economic centres).

Preliminary lessons learned

1. Insurance pools reduce transaction costs due to coherent legal framework and insurance conditions for all members.
2. As pools allow cover of high-level risks, they can constitute an element of climate change adaptation.
3. Parameters are difficult to design for smaller events, so that losses do not necessarily trigger payouts (e.g. Hurricane Dean, Jamaica, 2007). In addition, parametric insurance can be difficult to explain.
4. Pools provide greater opportunity for risk transfer to capital markets.

Sources: Hellmuth et al., 2009; Young, 2010; UNFCCC, 2011.

4.3

Operational challenges and solutions

As most of the schemes highlighted in this chapter have only been operational for a few years, some only on a pilot basis, the lessons and experiences remain preliminary, but there is a growing body of evidence from which to begin to draw initial conclusions. Certainly, the most obvious conclusion is that there are considerable challenges. In particular, this section considers the challenges and solutions associated with collecting weather data, developing and using indices, claims management, stakeholder education and sustainability.

Box 4.7

Catastrophic farming insurance for climatic events, Mexico

Hard facts

Start: 2005

Scale: Macro

Model developer: Agroasemex

Risk carriers: Government of Mexico, Agroasemex

Risk covered: drought, flood

Number of clients: 800 000 farmers (in 2008)

Distribution channel: Federal/state governments

Context

Subsistence farmers in Mexico frequently suffer from excess or lack of rainfall. To mitigate the effects for the rural population, federal assistance funds are provided by Programa de Atención a Contingencias Climatológicas (Climate Contingencies Programme or PACC). To improve risk management, Agroasemex, the state reinsurance company, developed an index insurance programme available to federal and state governments. The insurance premium is borne mainly by the federal government. The percentage covered by the state government depends on the level of marginalization of its insured population. For municipalities with a high level of marginalization, the federal government covers 90 per cent of the premium, while the remaining 10 per cent is covered by the corresponding state government. If payout is triggered, the funds are distributed to the farmers by the corresponding governments.

Challenges

Financial viability: Fully subsidized, state-run programme. According to the International Fund for Agriculture Development (Hazell et al., 2010), it has been cheaper for governments to purchase and operate index insurance than to pay disaster assistance funds directly to farmers.

Client awareness: Very low, as farmers do not participate in the decision to purchase insurance. From a farmer's perspective, this programme is seen as disaster relief rather than insurance.

Data availability: Lack of historical data, limited number of weather stations and limited technical capacity constrain further scale-up.

Basis risk: According to the IFAD study there have been two instances of basis risk so far, one where the payout was made without losses being incurred, and one where losses were incurred and no payout made. After the later event, the state involved, Michoacán, lost confidence in the scheme and withdrew. To decrease basis risk, the distance between weather stations would need to be reduced to 10 to 20 kilometres, but there were insufficient resources to do so.

Preliminary lessons learned

1. Governments can tackle climate change effects by using index insurance, which can function as an efficient tool for risk management and risk transfer using federal assistance funds.
2. The scope of index insurance depends greatly on the availability of reliable data.
3. Aggregation of clients and geographical risk-spreading provides incentives for the international reinsurance market to participate in insurance products.

Sources: Hellmuth et al., 2009; Levin and Reinhard, 2007; Hazell et al., 2010; AGROASEMEX, 2011.

4.3.1**Weather data**

Data are pivotal to the development of insurance products. In the informal economy, data on customers – let alone data series – are almost non-existent. With risk-related data, especially weather data, the situation is often no better.

The sparse data available in developing countries makes it particularly difficult for microinsurers. To develop indices for weather insurance, meteorological data should span a period of 30 years. It is practically impossible to develop products and relevant triggers using time series of 10 years or less. Missing data can be extrapolated using computing processes, which create realistic approximations to real conditions (Corbett, 2006), though the use of calculated data is difficult, particularly in microinsurance.

In a world in which an awareness of the importance of insurance must first be created, abstract figures and formulae can contribute to uncertainty. For example, drought cover in Ethiopia (*see Box 4.3*) used data from just 26 weather stations. It is not easy to convey to a farmer that the value to which the agricultural cover refers was measured some distance away from his plot. One solution is to increase the number of weather stations so that they are closer to more farmers, but there is certainly a cost involved, and there is no consensus as to how close to each other the stations should be.

Another solution may be remote-analysis methods, which are expected to make it easier to design relevant indices in the future. Developments such as area-wide satellite images and aerial photographs of a region should improve crop yield and loss estimates, giving a boost to agricultural microinsurance. It remains to be seen whether it will be easier or harder to explain such an approach to farmers.

4.3.2**Index-based solutions**

To manage large volumes of small claims, index covers are generally easier to handle than indemnity-based ones. The latter are time-consuming and expensive as losses have to be assessed and settled individually. With index covers, a specific trigger (e.g. temperature, rainfall and wind speed) is agreed upon. If this threshold is reached, a payout is made, which streamlines the claims settlement process. Payments are made regardless of how big the actual loss is for the insured.

However, there can also be negative effects. Since the loss may not be covered in full, as it would be with an indemnity cover, this gives rise to a basis risk for the insured and a reputation risk for the insurer. For example, in an index cover for agriculture, basis risk can occur in two ways:

- **Index is triggered, but no losses arise:** A smallholder has few crop losses in a harvest season but receives a payout because an agreed index value (trigger point) was reached. To his or her delight, the farmer receives a payment. For inexperienced and unsure customers, however, this can be counterproductive where the acceptance of a new insurance product is concerned.
- **Index is not triggered, but losses arise:** It is difficult to get policyholders to understand that they will not receive a payout despite incurring actual losses. The insurance system can be discredited for years, particularly if a large number of people are affected.

During the first decade of the 21st century there have been dozens of pilot tests in index insurance, most of them highly subsidized by donor money, but few have survived more than two years. Basis risk is clearly not the only problem. As discussed above, affordability and take-up are major challenges, and if schemes do not reach scale, they will not be viable. The movement away from micro to the meso and macro levels for weather and disaster covers are partly a reflection of this experience.

Product design is another challenge. It is generally advisable to set a simple trigger value that is well accepted. Even in ancient times, Egypt linked the agricultural tax to the river level at Elephantine Island: the higher the water level, the better the yields and the higher the taxes. A similar, easily understandable “trigger arrangement” on a widely known threshold measurement should help increase acceptance of the cover. However, while simple triggers are more easily understood, they can increase basis risk whilst not covering the real risks confronting farmers. Complex trigger formulae are perhaps more accurate, but if only experts can understand them, they can be counterproductive. Box 20.2 proposes an alternative approach that is probably easy for farmers to understand and more responsive to their needs.

Nevertheless, the correlation between meteorological variables in triggers and actual damage can be small, even with sophisticated product designs. According to experts from Munich Re, the correlation is estimated to be a maximum of 60 per cent. Consequently, a hybrid approach, such as the one being used by MiCRO in Haiti, which combines parametric and indemnity-based methods, represents an interesting alternative. Similarly, the Indian Government is testing a Modified National Agricultural Insurance Scheme (MNAIS) that combines weather and area-yield indices (*see Box 20.4*).

Because of climate change, it is important to recognize that the data model is likely to change over time. Consequently, it will be necessary to regularly reassess the product design, including the risks covered, the time periods and the triggers, for the cover to continue to be relevant.

4.3.3 Claims management

It is virtually impossible to convey the principle of insurance if no losses occur for years on end. It therefore makes sense to design the product so that claims are settled from time to time. Allowing for a higher frequency of losses has an immediate impact on pricing, but is important for acceptance of the insurance concept, particularly during the launch phase. Consequently, it is useful to consider different sets of triggers and defined payouts for large disasters, as well as smaller payouts for more occasional events. If it can be managed cost-effectively, frequent small payouts will build trust in the insurance scheme and increase the demand for cover for extreme events.

In the case of natural disasters, claims settlement is particularly complex. On the one hand, numerous claims have to be processed and settled, while on the other, those affected are often in shock as, besides material assets, items of sentimental value can be lost or damaged. In the case of personal injury, the emotional stress is particularly high. A lack of understanding and a clumsy approach can easily lead to frustration on both sides. However, index-based products that do not need extensive loss adjustment may be a cost-effective solution to speed up the claims settlement process. Claims processing can be further expedited if the scheme uses automated weather stations that regularly transmit precipitation and other weather data directly to the insurer (*see section 24.4*).

Effective claims management requires considerable preparation before the insured event occurs. Through scenario planning, attention must be given to the loss potential – the probable amount of loss and possible number of policyholders affected – and operational systems need to be established to respond. Funds for a speedy settlement must be kept in reserve or easily accessible. The key to a cover's future success lies in simple claims documentation requirements, easy administrative processing, clear decision-making channels and timing. Poorly managed claims handling will discredit microinsurance for years and undermine insurers' credibility.

4.3.4 Education and capacity building

Education and an understanding of insurance-based mechanisms require special attention when dealing with the low-income market. Many publications deal with the much-cited problem of insurance illiteracy (*see Chapter 14*), with solutions emerging at different levels:

- **Clients:** providing effective client education, cultivating an insurance culture in the low-income market, satisfying an unmet demand for new products
- **Providers:** building staff capacity, finding the right business models and delivery channels

- **Regulators:** removing regulatory obstacles, developing systematic and comprehensive approaches (*see Chapter 25*)

In the context of climate change, the question is slightly different. Who needs to know the subject and how? How must climate change be taken into account and communicated? Climatic changes take place over years and decades. As a result, the phenomenon is abstract, even though it is becoming better understood (Edenhofer et al., 2010). It may be assumed that while people in affected regions do perceive changes in the weather, there is often no association with the complex phenomenon of climate.

In this respect, climate change must be communicated in different ways at different levels, raising awareness about strategies to adapt to new conditions and effectively manage additional risks. For example, within an insurance company, the staff can be trained and made more aware. It is also essential to publicize success stories and obstacles. If valuable insights fail to catch on, the wheel will be constantly reinvented. For intermediaries, aggregators and clients, communication should be tailored to create an understanding of weather-related concepts by referencing weather conditions that have been experienced and risk mitigation steps that they can take. Responding to local specifics and addressing the individual situation of the target group makes it easier to introduce cover concepts.

4.3.5

Sustainability

Sustainable solutions are good solutions. They are economically stable and improve the living conditions of insured persons for years. As the microinsurance sector is young, it is difficult to achieve a balance between years with few claims and years with many. The following guidelines should be considered if microinsurance is to be transacted sustainably against the background of climate change:

- **Multi-year terms:** Risk partnerships based on trust develop over a long time and are one of the foundations of successful risk sharing. Insurance schemes that are geared only to short-term profit do not work. Stable partnerships are therefore clearly preferable to competition for favourable premiums.
- **Geographical spread:** The more insurance products are geographically spread across borders, the easier it will be to shoulder the burden of climate-related risks. The solidarity-based system of insurance works best when it is diversified over a large area, and hence the important role of reinsurance.
- **Efficient operations:** For agriculture insurance, a link between loans and crop insurance is essential for scaling-up and keeping transaction costs within reasonable bounds. Other bundling opportunities can be found in the agriculture supply chain, such as linking cover to seeds and fertilizer. For non-agriculture cover,

loan linkages may also be a useful starting point, as in the CLIMBS and MiCRO examples, but it is important to explore other means of aggregating risks for meso-level interventions.

- **Dialogue and understanding:** The stakeholders – politicians, scientists, business representatives, insured persons – generally have a different understanding of the language used. To reduce misunderstandings, clear agreement on aims and time-frames and an unimpeded flow of dialogue are necessary. Only if all those involved are aware of the benefits of cooperation can a strong commitment be expected.

4.4

Role of key stakeholders

For insurance to play a role in assisting low-income households to cope with the impact of climate change, a concerted and coordinated effort from numerous stakeholders will be required. This section briefly describes the important roles for governments and donors, insurers and product designers, reinsurers, and public-private partnerships.

4.4.1

Governments and donors

As discussed in Chapter 25, the transformation of unregulated schemes into regulated insurers is crucial for catastrophic microinsurance because it enables them to access reinsurance. However, governments have an even more important role: dealing with climate change and its impact. In this context, microinsurance is just one piece of a broader puzzle.

Covers for weather-related catastrophes must be considered when designing microinsurance regulation and national strategies. When doing so, it is important to remember that insurance companies only pay claims on an ex-post basis, after an event occurs. However, preventive measures are a key component of risk management and therefore governments should also design and implement national disaster reduction strategies.

As such, the relevant demands on governments are no different from those in the conventional insurance industry (Mills, 2008):

- Take the lead in a coordinated national effort to improve disaster-resilience through the adoption, enforcement, and implementation of improved building codes.
- Require that insurers collect and analyse more comprehensive data on weather-related losses and their insurance implications.
- Raise the standards of practice for catastrophe modelling and create a non-proprietary modelling and data-collection entity.
- Support risk-based pricing based on improved understanding of climate-related risks in combination with insurer accountability for access and affordability issues.

- Promote the development of climate-friendly insurance products and premium incentives through model laws and/or regulations.
- Promote partnerships with policyholders for loss mitigation.
- Safeguard reserves and surplus, based on an understanding of climate change, and encourage prudent investments in technologies and industries that will be part of the solution.

One of the main barriers to the availability of microinsurance products covering weather-related risks is the high start-up costs. Over a period of time where no or low premiums are generated, resources are needed to finance a set of tasks including researching demand and risk, identifying and selecting credible partners to access the low-income market, data gathering and management monitoring. Financial support or subsidies will increase the affordability, outreach and sustainability of microinsurance schemes.

Competitive insurance may be too heavy a burden for those who live and work in a vulnerable situation with no possibility of reducing their risk exposure at reasonable cost. Directly subsidizing premiums, however, reduces the incentive for those insured to take adequate risk mitigation measures. Incentives to reduce risk can thus come into conflict with equity or affordability (Picard, 2008). While some may instinctively turn to donors for such subsidies, the experiences in India (*Chapter 20*) illustrate how governments can use such interventions to stimulate market development.

Where appropriate, governments should also encourage the creation of microinsurance associations or support existing ones. Financing these support structures poses a challenge, since many of them do not collect enough from their members to cover their costs. This may be an area in which subsidies could also be effective. Subsidies may also be required for research and development, such as creating new products, enhancing benefits or experimenting with technology.

Looking at the role of governments and donors from a broader perspective, they have a role to play in policymaking, participation and consensus-building to create an enabling environment and strengthen institutions (Trommershäuser et al., 2006). However, product development and pricing, sales, administration and claims management remain strengths of the insurance industry. All other tasks could be financed or even managed by governments and donors. By doing this, they indirectly subsidize an insurance scheme without affecting risk-based pricing, which may be considered “smart subsidies”.

Smart subsidies reduce the costs for the insurance provider as well as the time to break even. Other targeted financial support such as conditional grants for aggregators (e.g. communities, MFIs or cooperatives) that participate in risk mitigation programmes may complement the involvement of government and

donors (Geneva Association, 2009).³ The combination of these efforts is likely to increase the outreach and ensure a high level of participation, thereby improving the viability and impact of microinsurance schemes.

4.4.2 Insurers, product developers

The regional impact of global warming varies considerably. In some places, torrential rain and flash floods are occurring more often. In others, heat waves or droughts are becoming more intense and lasting longer. National weather services and international bodies like the World Meteorological Organization can usually provide information on climate changes in specific regions of the world. Product developers and insurers must get an accurate picture of how the changes may affect weather events and atmospheric conditions.

In this respect, as many historic events as possible should be compiled and analysed, in consultation with weather or climate experts, to assess the risk. In the wake of global warming, risk loadings are to be expected. As with climate data, the periods analysed should never be less than 10 years, with a 30-year analysis being regarded as scientifically sound. Positive effects, such as the probability of less frost, should also be taken into account in the planning, although in product development it is the negative effects that are likely to predominate.

4.4.3 Reinsurers

The role of reinsurance for microinsurance covering catastrophic risks is not much different from the regular insurance market. It is prudent for microinsurers to take catastrophe reinsurance if it is affordable and available. Reinsurance reduces volatility and can be a prerequisite for profitability, particularly in the context of climate change (Munich Re Foundation, 2011). For example:

- Reinsurance stabilizes the financial conditions of the insurer especially when rare events such as natural disasters occur.
- It meets regulatory capital requirements or even plays a role as a capital source for companies with limited means.
- It provides additional professional services to insurers such as technical assistance, training or support in the product development phase.

When it comes to microinsurance and natural disasters the last of these three points has become increasingly important, since reinsurers have good

³ In addition to providing insurance, insurers may offer other related services. For example, agricultural experts working in insurance and reinsurance companies may have a better understanding of the big picture than an individual farmer, and can suggest a change of crops to reduce risk and make insurance more affordable.

access to data and expertise, which is critical for appropriate risk assessment and pricing.

Reinsurers have been reluctant to provide reinsurance to microinsurance schemes, but that is changing, as shown by recent products from Swiss Re for example. Reinsurers are restricted to doing business only with licensed insurers, so their involvement can be enhanced by regulation that formalizes informal schemes, such as in the Philippines (*see Box 25.5*). However, the small size of many schemes makes reinsurance relatively expensive. Networks or other aggregators, such as the International Cooperative and Mutual Insurance Federation (ICMIF) in the case for mutuals or CLIMBS for Filipino cooperatives (*see Box 4.4*), may facilitate broader access to reinsurance.

4.4.4 The public-private partnership (PPP) approach

Notwithstanding the differing roles of these stakeholders, it is also critical to consider how they can work together. For example, a crop insurance system can be a unique opportunity for pooling the forces and talents of the various stakeholders, including government and international organizations, farmers and farmers' organizations, the (re)insurance industry, the banking sector including micro-finance institutions, and agricultural input providers. Coordinated action is a prerequisite for increasing market penetration and providing insurance solutions to smallholders. The increasing challenges facing farming can be tackled with the help of PPPs (*see Box 4.8*). It is vital that the roles of the participating groups – the State, the agricultural sector and the insurance industry – be clearly defined, for example:

- **State:** Stipulate a legal framework, define agricultural insurance as part of national agricultural policy, and possibly co-finance premiums. In developing countries where state institutions sometimes do not have enough resources, some tasks could be assumed by international organizations.
- **Farmers:** Finance part of the risk transfer via insurance premiums, retain part of the risk in the form of a deductible, or with index products as basis risk, and apply site-specific and sustainable production methods to minimize production risks.
- **Insurance/reinsurance:** Assume the role of risk carrier, market and manage insurance policies, develop portfolios and products, and adjust losses. The best practice is for insurance companies to work together in insurance pools, combining and developing specialist agricultural insurance expertise in a management company.

Although it exists in over 100 countries, agricultural insurance is still limited in most developing economies, and the majority of smallholder farmers currently have to bear climate risks themselves. Through public-private partnerships it is possible to exploit the strengths of various stakeholders to enhance access (*see Herbold, 2010 and 2011*).

Box 4.8

SystemAgro, PPP approach in Turkey

Hard facts 2009

Sum insured: €1 416 500 000 (US\$2 098 360 000)

Premium volume: €58 773 000 (US\$85 251 000)

Policy numbers: total 306 770; crop insurance 285 243

Area insured: total 559 509 hectares, average two hectares/policy

Insured livestock: 112 202 head

Context

SystemAgro, developed by Munich Re, is a public-private partnership (PPP) between the State, farmers and the insurance industry.

Organization

- The Government provides a 50 per cent premium subsidy and co-financing for catastrophe losses.
- Insurance Pool: Set up by 22 insurance companies.
- Pool Board: Acts as a steering committee comprised of seven members (Ministry of Agriculture, Treasury, Insurance Association, Farmers' Union).
- Management company Tarsim: responsible for transacting insurance.
- System operational since 2006.

Challenges

Increasing market penetration

Product development:

- Crop – complementing direct loss insurance products (insured perils: hail, frost, storm, flood) with yield guarantee products (insured perils: all climatic perils) for arable crops.
- Livestock – making herd insurance products more attractive compared with single animal policies.

Reducing transaction costs

Preliminary lessons learned

1. Concerted action of this kind is a prerequisite for providing insurance solutions to under-served sectors.
2. Creating a link between production credits and crop insurance is essential for up-scaling and keeping transaction costs within reasonable bounds.

Source: Herbold, 2010 and 2011; www.munichre.com/systemagro.

4.5

Conclusion

To adapt to changing climate conditions and cope with the resulting disasters, the international community has pledged substantial funds to finance adaptation measures. The “fast-track” money of US\$10 billion per year approved in 2009 is to be increased to US\$100 billion per year by 2020. The first funds from this resource were allocated by the relevant ministries in 2010 (Wiedmaier-Pfister et al., 2009). This chapter has identified a number of areas where such funds could be used or invested to enhance the effectiveness of microinsurance in the context of climate change, including improved weather infrastructure, technical assistance to improve product design, awareness raising about the role of insurance in managing climate change risks, and subsidies to enable schemes to start and scale up quickly.

All microinsurance schemes, regardless of what risks they cover, need to assess how their claims experience might change in the future because of the impact of climate change. Technical assistance from climate change experts may enable agricultural, life or health insurance schemes to understand how their risk profiles may evolve over time, and what steps they can take to manage those risks, including accessing reinsurance.

Insurance schemes that have tried to tackle weather and disaster risks at the micro level have not managed to achieve scale without government subsidies. Certainly premium subsidies and smart subsidies for research, product development and consumer education would be a welcome use of these funds to improve the effectiveness of index-based weather insurance. Additional investments could support innovative efforts to overcome key challenges, such as remote sensing and experimentation with hybrid approaches to reduce basis risk, and designing effective yet understandable triggers.

Similarly, greater experimentation with meso- and macro-level interventions is warranted to explore alternative approaches to reducing the vulnerability of the poor to risks associated with climate change. While not specifically microinsurance, interventions at the meso or macro levels may be a more effective means of protecting the poor from natural disasters. Funds should also be used to increase key stakeholders’ awareness of the roles they could play to enhance the effectiveness of insurance as a tool for climate change adaptation, including the creation of public-private partnerships.

At operational level, the insurance of weather risks is a difficult but important issue for microinsurers to tackle. Technical assistance could help these organizations to overcome challenges and implement the guidance described in this chapter, including: