

Designing Insurance for the Poor

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The provision of insurance for the poor, covering a variety of risks, could well be a key milestone in the fight against poverty. In richer economies, insurance achieved through broad public action and appropriately developed private mechanisms has fundamentally changed the lives of poor people. The difficulty in developing countries, however, is that insurance markets are limited, as (often) is the capacity of public agencies to provide sufficient protection. Much experimentation has been done in the provision of health insurance, and microfinance institutions have begun to take more interest in insurance, providing coverage for risks such as crop failure resulting from drought and loss of income due to illness or accident as part of their overall service delivery. The focus of this chapter is the design of insurance schemes for the poor in some of the poorest settings of the developing world, taking potential synergies and pitfalls into account.

The Nature of Risk in Developing Countries

Risk is pervasive in developing countries. The standard household risks of fire, theft, unemployment, sickness, and mortality are all more severe for poor families in developing countries, and rural households, most of which derive their livelihoods from the land, face the additional risks of droughts, floods, and pests and diseases affecting their crops and livestock. Insurance provision in developing countries is still limited, and state-provided social security or more basic social safety nets are often limited or unavailable for particular widespread disasters.

Richer families have reasonable access to insurance alternatives, such as credit and substantial savings, and although these are generally not options for poorer families, it is well known that such families do employ relatively sophisticated mechanisms to

manage and cope with risk. They tend to diversify their crops and income-generating activities, often incorporating nonfarm activities into their income streams and even having family members migrate to reduce the household's overall exposure to risk. Where possible, they build up savings for precautionary purposes, often in the form of livestock or other liquid assets. Significantly, they also engage in informal mutual support networks in which assistance is provided in the event that a member experiences some form of shock. Nevertheless, given the variety and severity of risks to be dealt with, shocks inevitably have serious welfare consequences.

This is well illustrated by evidence from Ethiopia, where rural households face a considerable risk of drought. For example, about half the households interviewed in 2004 for a rural panel data survey in 15 communities across the country reported that they had faced serious hardship due to drought in the preceding 5 years, while around a quarter of the sample reported hardship resulting from illness, and a similar number reported problems related to illness. Despite a relatively widespread, foreign aid-supported safety net to cope with drought, as well as increased investment in health services, these shocks continue to cause significant welfare costs. The consumption levels of those reporting a serious drought, for example, were found to be 16 percent lower than those of families not affected, and shocks from illness appeared to have similar average impacts. Further, the costs were not just short term; in the sample it was found that those who had suffered considerably in the 1984–85 famine—the most severe famine in recent history—were still experiencing lower growth rates in consumption in the 1990s, a period of overall recovery, compared with those who were not seriously affected by the famine. These effects demonstrate that risk should be seen as a cause of persistent poverty in that shocks cause serious losses of physical and human capital assets. The presence of risk also tends to induce poorer households to become risk averse, even at the expense of potential returns; for example, they may choose to grow low-return but safe crops and to avoid committing resources to more productive capital in order to preserve the liquidity of their asset base.

The Characteristics of Insurance to Meet the Needs of the Poor

Insurance interventions designed to meet the needs of the poor would need to take into account the surrounding environment, particularly other interventions affecting risk and the way potential consumers respond to risk. The use of (micro)credit is expanding in most countries of the developing world, and in poorer settings schemes are often group based so as to provide increased incentives and possibilities for enforcement, thereby economizing on information and transaction costs.

Much effort is also being expended on developing better safety nets targeted to the poor, although usually with limited insurance provision beyond coverage for large-scale disasters. Further, in most communities in the world, people have long collaborated to provide mutual support in the event of crises, forming networks based on well-defined extended families and social groups. Such networks may well be suitable for handling idiosyncratic risks—risks that affect only a few members at a given point in time. However, there is scope to strengthen these networks via interventions to increase the risk pool as a means of guaranteeing sustainability. As it stands, these networks are not capable of handling covariate risks (risks that simultaneously affect many members of a network) or catastrophic (and, hence, very expensive) risks.

The Scope of Insurance

It should be noted that many types of risk are not easily insurable, simply because they cannot be actuarially priced—as is the case for many of the more common risks in developing countries, because even basic data on health, longevity, and climate are often largely incomplete—or because the risks are unknown, as in the case of rare natural disasters or catastrophes. Rather than insurance, risk reduction and management may be the relevant priority response for many types of risk. The obvious examples are conflict and crime, but others include water management and environmental protection in the event of drought and soil erosion in certain areas.

Insurance provision also suffers from serious informational and enforcement problems—possibly even to a greater degree than those faced by credit markets. Because it is difficult to observe the exact risk profile of each member of the population, insurance may attract those facing relatively higher risks on average, leading to adverse selection problems affecting the sustainability of a scheme. Further, people may actually start taking more risks once insured (the so-called moral hazard problem). Premium collection costs can be high, as can be the costs of verifying that certain insured risks actually occurred. These types of problems provide explanations for the limited development of insurance markets in poor communities. And because any scheme undertaken by the public sector or a nongovernmental organization (NGO) would face similar problems, there is a strong rationale for improving the design of insurance mechanisms in efforts to economize on these costs.

Another set of problems complicates matters even further: experimental evidence suggests that people's perceptions of risks tend to deviate considerably from observed distributions of risk; for example, relatively high-probability events tend to be underestimated. Furthermore, people find it hard to attach any probabilities to many possible events.

These considerations promote certain “rules of thumb” when it comes to designing mechanisms for insurance delivery. Partnerships between private-sector insurance companies, which have the much-needed expertise in the field, and NGOs and possibly even public agencies, which are in a unique position to reach the targeted poor sectors of communities, are likely to be the most fruitful.

Developing and Designing Interventions for Poor Constituents

When it comes to specific insurance interventions, it makes considerable sense to attempt to build on existing groups, especially those with developed forms of insurance provision and mutual support. In Europe, much of the provision of social security historically began with health and unemployment insurance initially developed within cooperatives or trade unions; with public intervention, these mechanisms eventually grew to become fully fledged social insurance schemes. In developing countries, there is ample evidence of functioning self-help groups (for example, in India) and cooperatives. There are also more traditional but no less sophisticated institutions, such as funeral associations, which provide cash and in-kind funeral benefits for members and their families (Box 25.1). Significantly, these institutions tend to be highly inclusive of the poorest segments of the community. Existing groups such as these could be strengthened by providing broader risk pooling as well as by offering protection for additional kinds of risk, most notably covariate risk, which they are not currently in a position to underwrite.

Working with groups has considerable advantages. First, it eliminates or at least considerably reduces the problem of adverse selection, for existing groups will have already internalized such risks. A related advantage is that dealing with groups would considerably reduce monitoring costs because the insurance agency would have to monitor only the group portfolio, leaving the association to monitor the individuals within the group. Next, provided that groups were chosen to focus on the poorer segments of society, targeting could also be devolved to the level of the group, society, or association. An additional benefit of focusing on existing groups is that mutual support systems would already be in place within the group, making it easy to build on existing informal schemes with complementary activities. If only individual members of these groups were targeted rather than the group as a whole, the newfound protection of those individuals could well induce them to withdraw their support to existing networks, possibly leaving some with even less protection than before.

Targeting insurance to groups, just as to individuals, requires the careful design of products. Different risks have different specific informational or verification problems, which should be taken into account in this process. For example,

Box 25.1 Funeral associations in Ethiopia

Most Ethiopians are members of one or more *iddirs*, which are funeral associations commonly found in both urban and rural areas. *Iddirs* traditionally offer their members insurance with benefits paid either in cash or in kind (such as in the form of funeral arrangements) in the event that a family member dies. Members usually pay a monthly premium, although there are specific mechanisms to ensure that even the poorest are included. In recent years, it has been observed that many of these groups have expanded their insurance to cover a number of different kinds of risk, including household- and fire-related damages, personal injury, and illness. These groups are typically local, so covariate risks cannot be insured. Some efforts have been made to build on these groups to increase insurance coverage. A number of urban *iddirs* in Addis Ababa have joined forces, effectively broadening the risk pool. A pilot scheme offering health insurance to *iddirs* is also under way.

health insurance schemes tend to suffer primarily from adverse selection problems, property or fire insurance are strongly affected by moral hazard problems, and insurance against crop failure suffers from moral hazard as well as loss verification problems. These risks are often also highly covariate, requiring a much larger risk pool. Life insurance has fewer of these problems and is typically observed to emerge early in new insurance markets. For example, in India the Self-Employed Women's Association has begun to offer life insurance to its members.

In recent years, a number of innovative products have been developed relevant to the developing world. For rainfall insurance, indexed products have been developed in which fixed payouts are made when local levels of rainfall fall below particular trigger levels. These products are calibrated to cover typical losses from low or high rainfall across particular geographical areas, and predetermined payouts are provided to customers without the need for specific individual losses to be verified and estimated. Such products have been piloted in India and Malawi, for example (Box 25.2). They overcome costly verification problems, as well as all standard informational problems such as moral hazard and adverse selection.

Designing products is nevertheless relatively easy compared with the task of ensuring considerable uptake of insurance. Studies investigating the hypothetical demand for insurance consistently find that demand is high, but when insurance products are piloted, such as in India and Malawi, uptake is rarely swift or of high volume. In insurance companies this phenomenon is well known; therefore, it is often said that "insurance is always sold and never bought." Explaining this is

Box 25.2 Rainfall insurance

Rainfall insurance involves products that cover typical losses from low or high rainfall across particular geographical areas based on predetermined payouts, thereby eliminating the need to estimate individual losses. Such products are highly attractive to insurers because they enable them to sidestep the problems of moral hazard, adverse selection, and verification costs, which have bedeviled crop insurance schemes across the world. In the developing world, trials of rainfall insurance products have been undertaken in various areas of Ethiopia, India, Malawi, Mongolia, Nicaragua, Peru, and the Ukraine.

BASIX has experimented with rainfall insurance in Andhra Pradesh, India, since 2003. The findings of its controlled study illustrate some of the key problems of indexed insurance products designed for the poor: despite being offered in areas with serious drought risk, only a small number of eligible households (4.6 percent) bought the insurance. All evidence indicates that those who bought the insurance were wealthier, better educated, and more able to withstand the shock of drought than the average farmer in the area. Why, then, did the poorer farmers forgo the insurance? Evidence suggests that they either did not understand the product or did not trust the product or its provider. It is worth noting, however, that on average—despite the insurer-friendly indexed design of the product—insurance premiums were around three times higher than the expected payouts. Work in Malawi has returned similar conclusions on uptake problems, but there is a clear need for further exploration of the subject.

harder, although the relatively high up-front cost of an insurance premium for some people may well explain their reluctance. It could also have to do with the fact that insurance is a difficult concept for most people to understand, and the very act of taking up an insurance product can often be seen to increase uncertainty, given its cost and its novelty.

For insurance to be successfully adopted, prospective clients need to be educated on the issue, and more research is needed to improve our understanding of why uptake is often low. These additional costs will increase the overall cost of insurance, but low uptake will reduce the benefits, viability, and ultimately the sustainability of insurance schemes, defeating their purpose. These realities may offer an additional incentive for a group approach given that established groups have established forms of mutual support, and this may lower additional educational and marketing costs.

Prospective Effects on Other Markets

Insurance may also affect the functioning of other markets. Specifically, one well-known reason that private credit markets function poorly or are poorly developed in the poorer regions of developing countries relates to enforcement problems associated with repayment. Offering insurance in such settings is rather analogous to offering bankruptcy protection. Bankruptcy laws provide a limit to enforced repayment, encouraging people to take more risk than is prudent. As a result, fewer people may be offered credit in the presence of bankruptcy laws than would be without them. Offering insurance against serious losses has a similar impact: it provides a limit to the “damage” caused by undertaking risky activities, but this increased risk-taking may in turn result in a reduction in the overall amount of credit offered. In short, insurance for broad income risks has the potential to crowd out credit.

Similarly, offering insurance to individuals as part of group-based credit schemes has the potential to undermine the credit scheme. These schemes economize on information and monitoring by creating incentives for members to ensure that they repay their loans, and a big factor in this is ensuring that they do not take on very high risks. Introducing insurance changes these incentives, running the risk of undermining the credit scheme. The implication is that in order to avoid undermining credit provision, potential gains would need to be incorporated into credit–insurance linkages—for example, by ensuring that contracts optimally internalized the different incentive, monitoring, and enforcement problems. One way to do this would be to offer credit with mandatory insurance rather than allowing some borrowers to opt out of insurance.

Going a step further, insurance could be linked to the broader social safety net agenda. Social safety nets are arguably a crude form of insurance that offer benefits at times of crisis. A key difference is that the benefits are usually not well defined or known in advance, and the recipients have limited certainty that they will receive benefits but no contractual enforcement powers. For social safety nets to operate in the same manner as insurance they would need to be credibly guaranteed. They should also be seen as an alternative in the event of the failure of credit and insurance markets and as one of a number of risk management strategies available to the poor. It is also important to recognize that they have the potential to undermine existing mutual support and credit schemes via the crowding-out problems previously discussed.

Concluding Comments

In conclusion, successfully devising insurance schemes to meet the needs of the poor requires a holistic approach that considers the risk behavior of users, the surrounding environment, and the potential side effects, such as on credit markets.

Costs and benefits need to be taken into account, along with potential trade-offs and complementarities.

For Further Reading

Dercon, S. Income risk, coping strategies, and safety nets. *World Bank Research Observer* 17, no. 2 (2002): 141–66.

Dercon, S., J. de Weerdt, T. Bold, and A. Pankhurst. Group-based funeral insurance in Ethiopia and Tanzania. *World Development* 34, no. 4 (2006): 685–703.

Giné, X., and D. Yang. Insurance, credit, and technology adoption: Field experimental evidence from Malawi. World Bank Policy Research Working Paper Series 4425. World Bank, Washington, DC, 2007.

Giné, X., R. Townsend, and J. Vickery. Patterns of rainfall insurance participation in rural India. World Bank Working Paper. World Bank, Washington, DC, 2007.

Morduch, J. Between the state and the market: Can informal insurance patch the safety net? *World Bank Research Observer* 14, no. 2 (2002): 187–207.