

Literature Review on
Microinsurance

Stefan Dercon*[^] and Martina Kirchberger*
in collaboration with Jan Willem Gunning[^]
and Jean-Philippe Platteau[^]

*Oxford University

[^]European Development Research Network (EUDN)

October 2008

Introduction

Uninsured risk leaves poor households vulnerable to serious or even catastrophic losses from negative shocks. It also forces them to undertake costly strategies to manage their incomes and assets in the face of risk, lowering mean incomes earned. Welfare costs due to shocks and foregone profitable opportunities have been found to be substantial, contributing to persistent poverty (Morduch, 1990; Dercon, 1996, 2004; Rosenzweig and Binswanger, 1993; Elbers *et al.*, 2007, Pan, 2008). Microinsurance has the potential to reduce these welfare costs. By offering a payout when an insured loss occurs, it avoids other costly ways of coping with the shock leaving future income earning opportunities intact. Furthermore, the security linked to being insured can be expected to allow the avoidance of costly risk-management strategies with positive impacts on poverty reduction.

This literature review provides an overview of the current state of research on microinsurance, identifies key knowledge gaps and develops a conceptual framework to inform and organize the research agenda of the Microinsurance Facility in the area of impact evaluation, demand and supply issues. For the purpose of this review, microinsurance is defined in line with Churchill (2006) as an insurance that (i) operates by risk-pooling (ii) is financed through regular premiums and is (iii) tailored to the poor who would otherwise not be able to take out insurance. The main focus of the literature review is on voluntary insurance¹. Other ways through which individuals or the public sector can insure against risks, such as precautionary savings, access to credit or through public safety nets are therefore not treated in detail in this review. However, this leads already to one key omission in the existing literature: generally, the benefits of microinsurance are not compared to alternative mechanisms that may provide insurance-like benefits, possibly in a more cost-effective way, such as microsavings, consumer or emergency credit, and public safety nets.

¹ This includes voluntary insurance sold to groups with mandatory within-group membership.

This paper is divided into four parts. The first section offers a general framework to understand the link between risk and poverty, allowing us to carve out a clear place for insurance activities as part of poverty eradication efforts. It also summarises some of the key findings related to the work on risk and its consequences for households, communities and firms. Part two deals with evaluating the impact of microinsurance and develops a general conceptual framework for impact analysis applicable to various types of insurances. It reviews some of the (few) papers that have been able to assess the overall impact of insurance on welfare outcomes. Part three reviews demand side issues: is there a demand for insurance, and what (if anything) constrains this demand to be reflected in actual uptake of insurance products. Areas considered relate to the actual cost and pricing of microinsurance, the credibility of the provider, and the issue of information and knowledge about risk and insurance. Part four reviews key supply side challenges, such as effective product development, pricing, marketing and sale, institutional models and delivery channels as well as technology options. An overview of studies reviewing a range of microinsurance programmes is presented in the Annex.

It is important to highlight that, while different insurance products are discussed at the same time, readers should keep in mind major differences between health insurance and other types of insurance such as life, property or rainfall insurance. The latter products can typically be seen as only dependent on the appropriate functioning and management of the insurance system itself. The impact on clients will depend on whether incomes, assets or other outcomes are better protected with the product rather than without. Health insurance is more complicated. The impact of health insurance is most appropriately assessed in terms of health, but this is directly dependent on the strength and weaknesses of the health care provision, and not just the financial side of the insurance scheme. For example, factors such as the structure of health service delivery system, its financing, monitoring and regulation play a crucial role in determining health insurance performance (Preker, 2007).

1. Risk and its implications for poverty

To understand the impact of insurance initiatives, it is instructive to put it in the context of how risk shapes behaviour and outcomes of the poor. Table 1 offers a simple framework (based on Dercon, 2008), linking risk to its consequences in terms of outcomes in various dimensions of welfare in the short and long run. Households, communities, firms or societies as a whole, face a multitude of risks. Given their options and characteristics, they will make “risk management decisions”, or at least decisions with implications for risk management. This decision-making ‘ex-ante’ (when risk is present) has implications for outcomes, in the short run and long run, which will be discussed below further. Next, shocks may occur – effectively a realisation of the state of the world whose risk may or may not have been recognised beforehand. People’s responses or inability to respond will again have implications for outcomes, in the short run and in the long run.

It is worth emphasising that two distinct ‘decision moments’ are considered: one when there is still ‘risk’ (i.e. a potentially large number of different possible events or circumstances), and one when a ‘shock’ (i.e. a realisation of one of these possible events or circumstances) has occurred. The decisions that need to be taken in the face of risk (risk management or ‘ex-ante’ strategies) are potentially very different from those taken in the face of a shock (risk coping or ‘ex-post’ strategies). Nevertheless, they cannot be viewed independently, as risk management decisions will have implications for the possible set of risk coping strategies, while risk coping will have implications for the type of risk management decisions that can be taken in the next period.

Table 1 Risk and outcomes

UNINSURED	<i>risk</i>	Implications for	SHOCK	<i>‘risk</i>	Implications for
RISK	<i>management</i>	WELFARE	“realisation	<i>coping’</i>	WELFARE
‘sources of risk’	→ <i>decisions</i>	→ OUTCOMES	→ of the state	→ <i>decisions</i>	→ OUTCOMES
		In the SHORT RUN	of the world”		In the SHORT RUN
		In the LONG RUN			In the LONG RUN

What risk strategies are commonly observed? Table 2 summarises some of the evidence, highlighting some survey articles of the vast literature available. A number of recent survey articles have summarised some of the key strategies observed. These strategies have been widely acknowledged as a central part of people's livelihoods. Households have strategies to cope *ex-post* with shocks, to smooth consumption and nutrition when shocks happen, even if formal credit and insurance markets, or social protection schemes are not available. They may use savings, often in the form of live animals, built up as part of a precautionary strategy against risk. They may develop personalised informal credit arrangements. They also often engage in informal mutual support networks, for example, clan- or neighbourhood-based associations, or even more formal groups such as funeral societies.² However, group-based systems cannot work effectively in the face of 'covariant' shocks, affecting the whole group, while the lack of good stores of wealth, with limited risks, also means that building these 'buffer stocks' is highly costly and indeed not as effective as hoped for. On the latter, a well-known example is when households in Northern Wollo in Ethiopia tried to use their standard smoothing device – selling small and larger livestock – to cope with the drought and famine in the mid-1980s. Livestock prices collapsed due to oversupply and lack of demand, in the face of high grain prices, providing a classic case of entitlement failures as in Sen (1981). In terms of risk management strategies, different forms of diversification are commonly observed – either in crops, activities or assets. As long as the returns to these activities are not perfectly covariate, there will be benefits from diversification. Specialisation in low risk, low return activities is another strategy, usually when alternatives are all involving considerable risks.³ Families will also build up extra savings in the face of risk

² In particular in economics, the 'consumption smoothing' and 'risk-sharing' literature has thrived, and indeed they are examples where work on developing countries has heavily influenced the mainstream research agenda. Surveys of this literature are found in Townsend (1995) or Deaton (1997); as well as in Dercon (2005) and Morduch (1995).

³ It is not just individuals and communities that develop risk strategies. Firms in developing countries also have been observed to respond to risk. For example, firms adjust their stock management policies in line with a precautionary motive, so that they can use it as a risk coping strategy (Fafchamps et al., 2000); labour market contracts in firms reflect risk-sharing arrangements, i.e. workers and firms share risk, just as informal village institutions (Bigsten et al., 2004). Firms have also been observed to change in the face of

(precautionary savings) with the result that less resources are available for consumption and other necessary spending.

Table 2. Cost of risk: a review

Theme	Selected references	Nature of the Evidence
Ex-ante risk management mechanisms	Reviews in: Morduch (1995) Dercon (2005)	Risk management is common, via diversification or entry into low risk, low return activities. Risk reduction at the cost of lower mean incomes . Lower mean consumption spending due to precautionary savings. Poverty persistence.
Ex-post risk coping mechanisms	Reviews in Townsend (1995) Morduch (1999) Dercon (2005)	Evidence of use of assets to smooth consumption, and informal sharing of risk within communities; overall only partial smoothing of shocks, especially related to covariate shocks
Impact beyond consumption or income	Asset accumulation Rosenzweig and Wolpin (1993), Elbers, Gunning, Kinsey (2007), Elbers, Gunning, Pan (2008), Pan (2008) Nutrition and Health Gertler and Gruber (2002) Hoddinott and Kinsey (2001), Dercon and Hoddinott (2005), Lybbert <i>et al.</i> (2004), Alderman <i>et al.</i> (2006)	Lower accumulation of assets due to risk, mainly due to ex-ante responses; effects of portfolio composition of assets, such as higher liquid assets rather than higher return illiquid assets. losses in health and nutrition, especially due to large shocks, such as drought or catastrophic events.

Much research on the effectiveness of these strategies is still taking place, documenting and analysing different rather sophisticated mechanisms used in poor societies around the world. But the key finding seems to stand: they provide some protection against risk and shocks; however, this protection is never more than partial, and considerable risks remain (Morduch, 1999). In short, this literature clearly opens the door for a policy focus: how to design better protection schemes, as informal mechanisms are not offering perfect protection.

This framework also allows us to emphasise that costs are not just incurred in the short run, via fluctuations in welfare outcomes. Risk coping strategies come at a cost, as assets are depleted when trying to cope with risk. Examples are sales of livestock during crises,

risk of corruption, their investment portfolio away from easily expropriated assets (Svensson, 2003). Of course, the latter would be a risk for which the response is unlikely to be to offer insurance contracts.

going with less food, potentially affecting long-term health and nutrition, not least of children, or withdrawing children from school affecting long-term human capital. Furthermore, ex-ante strategies can be very costly, for example limiting the use of modern inputs or in general holding less than efficient asset portfolios or just less accumulation of assets (Elbers, Gunning and Kinsey, 2007; Dercon and Christiaensen, 2007). The result is that risk can be a cause of persistent poverty, with consequences not just limited to temporary welfare costs.

This nature of the benefits of insurance initiatives in the context of its actual benefits for poor households can then be directly seen. Insurance can offer a means of coping with the consequences of shocks, allowing smoothing of nutrition or avoiding costly asset depletion. It also allows the poor to take advantage of opportunities that would help them to escape poverty but that are too risky without additional protection. At the same time, from this framework it is also clear that insurance is only one of many possibilities to reduce the impact of risk on poverty. Clearly, other financial instruments could be beneficial too, such as better and more flexible savings products (strengthening self insurance and risk coping) or better credit possibilities (such as emergency and consumption credit products). Furthermore, stronger social protection systems, such as forms of social security or safety nets, could offer similar credible alternatives. The review below will also highlight numerous problems with insurance provision, so developing insurance may also involve considerable costs and ensuring that insurance products are taken up by clients may be difficult to achieve for other reasons than just costs. In short, there may well be trade-offs that would make insurance not necessarily the optimal response. More research is clearly needed to pinpoint exactly the circumstances and conditions in which efforts to expand insurance offer broader benefits to households than other alternatives. As a result, besides offering a review of the literature on microinsurance, we offer below also a number of research questions that deserve more work.

2. Impact of Microinsurance

In this section, we turn to the evaluation of the impact of specific insurance products, and provide a number of key research questions deserving further attention. The impact of microinsurance products can be measured in a number of dimensions: first, the level of protection the insurance provides when a shock occurs (ex-post); for example, how well does a health insurance protect households from catastrophic spending in case of serious illness of a household member? It directly impacts households' ex-post risk coping mechanisms and is the prime justification for households to take up insurance: it helps households to keep consumption spending stable and avoid asset loss. The impact of microinsurance on consumption, assets or other dimensions of welfare (such as health, nutrition, school enrolment) is therefore a useful indicator to investigate the role of microinsurance in allowing individuals to avoid further poverty and hardship⁴. Indicators can be measured at the relevant client-level, including the household level or different members within the household, allowing the exploration of gender or within-household allocation effects.

Second, microinsurance can impact on households' behaviour before shocks occur (ex-ante). As discussed above, a large part of the costs of uninsured risk for poor households are due to costly ex-ante risk management strategies. The question arises whether insurance helps clients to redirect their activities and assets to entrepreneurial, higher return even if more risky portfolios. Here the focus could be on the type of activities households are involved in, their asset accumulation behaviour and the composition of assets. At the same time, given moral hazard, insurance may affect behaviours in more negative ways reducing the potential benefits, such as being less careful with crops or property, unless products are designed to counter this. In the case of health, insurance could impact on health seeking behaviour, including prevention, and depending on the nature and incentives entailed in the product and the organisation and quality of the health care system, impacts could be very different.

⁴ Wagstaff (2008) discusses methods for measurement of financial protection in health.

A further issue that is important to consider relates to the impacts of taking up microinsurance across households and individuals – who benefits most? Clearly, microinsurance evaluation should not just be interested in average impacts across a population, but gain understanding on the type of clients and their family members for whom insurance offers most benefits. One could study the impact by socioeconomic background, ethnicity, gender dimensions, and other well-defined characterisations. Finally, the provision of microinsurance schemes could have indirect effects on existing systems of protection, such as informal insurance and mutual support mechanisms in the communities involved. For example, other informal insurance systems may be affected and undermined, possibly with detrimental impacts on some households and individuals.

Table 3 presents a number of studies that managed to evaluate a number of insurance schemes in a methodologically sound way, focusing on impact dimensions beyond just the purchase of insurance. Overall, this set of studies is clearly very limited and one could argue that some others should have been included, but it is in any case correct that there are few studies that can really credibly evaluate the welfare or other benefits from insurance.

Table 3. An overview of key microinsurance impact evaluations on clients

Theme	Available research	Nature of the Evidence
Impact on ex-ante risk management	Impact of weather insurance on modern input use: Gine and Yang (2007) Impact of health insurance on precautionary savings: (Gruber and Yelowitz, 1999; Chou et al., 2003)	No increased risk-taking in the form of modern input use in Malawi. Decrease in precautionary savings due to health insurance
Success of insurance in offering ex-post risk coping	Impact on health of health insurance: Wagstaff and Pradhan (2005) Chankova et al. (2008); Dong (1999); Dror et al. (2006); Gumber, (2001); Jütting (2004), Preker et al. (2002); Ranson (2001), Wagstaff (2007), Wagstaff et al. (2007) Direct evidence of other insurance mechanisms on specific welfare dimensions is limited or missing.	Positive impact of health insurance on anthropometric status in Vietnam. Insurance protects against payments for inpatient care, but does not decrease out of pocket expenditures for outpatient care. Differential treatment (drug prescription) between insured and uninsured individuals in China due to financing. Micro-health insurance units contribute to smaller differences in access to health care among according to income in the

		<p>Philippines.</p> <p>Reduced out-of-pocket expenditures for members of community health insurances, but exclusion of the poorest in Senegal.</p> <p>Increase in service utilization and inpatient care, but no reduction in out-of-pocket expenditures in Vietnam.</p> <p>Increase in service utilization but no impact on out-of-pocket expenditures and utilization among the poor.</p>
Heterogeneity of Impact (profiles of who benefits most)	<p>Uptake of weather insurance (India, Malawi): Gine et al, 2007b; Gine and Yang 2007;</p> <p>Uptake of health insurance: Wagstaff and Pradhan, 2005; Jowett, 2003</p>	<p>Signs that relatively not-so-poor households take up more insurance.</p>
Impact on existing informal mechanisms and other external effects	<p>Impact on informal insurance schemes (externalities)</p> <p>Attanasio and Rios-Rull (2000) (theory); Dercon and Krishnan (2003) (safety net) Jowett (2003) (health insurance in Vietnam).</p>	<p>Possible crowding out by microinsurance of informal insurance.</p> <p>Evidence in Ethiopia is suggestive of this risk, albeit in the context of a safety net, not in terms of insurance.</p> <p>Evidence in Vietnam shows that strong informal insurance hinders uptake of new insurance products.</p>

So far, the literature evaluating the impact of insurance in low-income countries is not just relatively limited; it is also rather unbalanced between different types of insurances. The main emphasis has been on different types of health insurance schemes, and their impact on health care-utilization, out-of-pockets expenditure or social inclusion (Chankova et al., 2008; Dong, 1999; Dror et al., 2006; Gumber, 2001; Jowett et al., 2003; Jütting, 2004, Preker et al., 2002; Ranson, 2001, Wagstaff, 2007, Wagstaff et al, 2007). Very few studies evaluate the impact of insurance on overall household income, nutrition, or other dimensions of welfare than those directly related to the insurance. Exceptions include Wagstaff and Pradhan (2005), who evaluate the impact of health insurance on health outcomes (anthropometric indicators), health care utilization and non-medical consumption expenditure for households in Vietnam using panel data and propensity score matching. They find that voluntary health insurance had a positive impact on height-for-age and weight-for-age of young school children, and led to an increase in non-medical household consumption. Building on Gruber and Yelowitz (1999)'s

evidence from Medicaid in the U.S., Chou et al. (2003) find that public health insurance in Taiwan has caused a reduction in savings for precautionary reasons, with the effect negatively proportional to the size of savings.

Careful evaluations on the impact of microinsurance in the field of life, property, livestock and weather on the poor are scarcer. Young et al. (2006) highlight the lack of even a standard framework in which to measure the impact of microinsurance, as well as difficulties with measuring its impact. For example, if a shock forces a household to sell livestock, despite insurance, but insurance allows it to sell it later and at a better price, the additional benefit of insurance is not straightforward to measure. In fact, this is just one example of the key problems with evaluating insurance schemes: it is perfectly possible that in the period evaluated, few if any may face serious losses, and in that case, those paying the premium may in fact have lower outcomes than those not buying insurance. In general, evaluative work is hindered by the lack of systematic baseline data on beneficiaries and plausible control groups. The increased use of randomized experiments and the careful use of panel data to allow constructing comparable treatment and control groups will provide scope for much progress. Below, we summarise some of the key methodological challenges. In the field of weather insurance, recently a number of interesting randomised experiments have tried to assess their impact on incomes and also on risk-taking behaviour (Gine et al., 2007a; 2007b; Gine and Yang, 2007). The findings do not show substantial impacts; for example, Gine and Yang (2007) undertake a study in Malawi and show that those with insurance did not increase the uptake of risky technologies, one of the expected outcomes.

In terms of the impact of new schemes on existing mechanisms, Jowett et al. (2003) find that social cohesion and informal financial networks are negatively associated with insurance uptake, suggesting that the former crowd out public voluntary health insurance. Dercon and Krishnan (2003) present evidence that suggests a crowding out effect of informal risk-sharing arrangements by food aid. While the evidence base is limited, microinsurance can also have important externalities at the community level. For example, health insurance can produce positive information externalities through

improved preventive behavior so that also individuals who are not insured benefit from it. On the other hand, Morduch (2006) points towards a possible negative price effect of insurance during times of shocks when insured individuals drive up the price of goods, for example food.

In conclusion, there are few studies that rigorously evaluate the welfare or other benefits from insurance. A key issue is methodological: it is very hard to evaluate such programmes. To conclude this section, a list of questions and avenues for further research is offered. Box 1 further below discusses relevant methodological issues in addressing these evaluation questions.

This list of questions is written generically, for any type of product. This will not be always sensible. Different risks have specific features, and as would have feasible insurance products for different risks. Specificity should be taken into account when studying the impact of products. For example, moral hazard may be more problematic in the case of crop insurance (farmers may feel less inclined to try to salvage their crops when insured) compared to life insurance (as insurance is unlikely to affect mortality risk systematically). Adverse selection may be a bigger problem in the case of health insurance than, say, crop insurance (for example, drought risks may well be more similar in a community than health risks). Such factors will affect the nature of the products that can be offered and the heterogeneity of impacts, and therefore it will have implications for the interpretation of any impact evaluation.

Specificity will be especially important in the case of health insurance evaluation. The impact of insurance in this case on key outcomes of interest, such as health or nutritional status, will be strongly affected by the quality of the health services on offer. In particular, a limited impact of health insurance could be caused by problems with the insurance product (and the incentives regarding health seeking behaviour) or by problems related to the quality of health care it provides access to. As a result, health insurance evaluation is bound to have to be rather different from the evaluation of most other products, especially for those products for whom the impact is mainly dependent on the

financial compensation for a loss that is experienced (such as the loss of a crop, property or costs related to mortality).

Further Research: Does insurance enhance welfare?

The key question deserving more attention relates to the *overall impact on household welfare*, such as whether persons protected are better able to manage risks and break the poverty cycle than persons without insurance? More research is clearly needed on specific aspects of this, such as (i) To what extent do low-income households adopt more efficient risk-management strategies when they start using microinsurance? (ii) How do consumers use insurance payouts? (iii) Does insurance coverage promote undertaking higher-risk, more productive economic activities? (iv) Does health insurance contribute to more efficient health seeking behaviours? Any of these impacts will need to be unpacked further to address questions such as which segments of low-income households benefit the most? What are the intra-household dynamics? How does insurance impact women, men, other household members? How do they benefit? (e.g. is it through more efficient behaviours, stronger asset or human capital position, more asset accumulation, etc.) Are there any externalities at the community level? For example, does it affect local health care provision, does it crowd out informal schemes, does it affect credit markets? Finally, questions arise about which products provide the highest impact: what is the best product for particular risks in particular circumstances. This can be related to pricing of products (e.g. low premiums with low protection compared to high premium for higher protection)? Or comparing the impact of single versus composite products (for example, combining health and agriculture insurance products, or mandatory versus voluntary products). Product comparison should not limit itself to insurance alone: a key concern when studying the impact of insurance will have to be more work on comparing the impact of insurance with other complementary financial services (such as savings, consumption or emergency credit) as well as safety nets and social protection (including social security and cash transfers).

Box 1. Methodological Notes on Impact-Related Research

- (a) To study the impact of insurance schemes, it is necessary to design the data collection in such a way that credible counterfactuals can be constructed, meaning that one needs to be able to assess what the impact of insurance is compared to having no insurance. This can be obtained using randomized controlled trials (in which among a population, the ‘beneficiary’ group is randomly chosen in relation to non-beneficiaries), before and after evaluations with control groups (in which control groups are established that can be considered similar to the beneficiaries involved). Alternative designs that could be consistent with these outcomes include quasi-experimental designs (for example, ‘natural’ experiments, or the exploitation of staggered introduction of schemes or evaluation exploiting rules of implementation that allow credible counterfactual analysis near the threshold that separates beneficiaries and non-beneficiaries).
- (b) In quasi-experimental designs care must be taken to account for existing risk coping strategies in the absence of insurance. The question is whether poor people would benefit from insurance relative to these alternatives (often informal institutions with insurance characteristics). An important challenge is to compare the cost of insurance with the (implicit) cost of such alternative arrangements.
- (c) Researchers are encouraged to take into account that in practice people who choose to take up insurance are likely to differ systematically from others. In experimental designs researchers may therefore want to define the treatment group as those to whom insurance is offered (but may decide not to enrol in the program).
- (d) Impact assessment of insurance is fundamentally difficult as, by definition, insured losses may not occur for many of the participating households during a relatively short evaluation period. For example, only those experiencing health problems will receive payouts of health insurance. The result is that those paying a premium and not facing losses may seem ‘ex-post’ to be worse off than those not paying a premium, if few people experienced any losses in the period of investigation.

Source: Concept Note prepared by EUDN (2008).

3. Demand for Microinsurance Products

Successful microinsurance products need to give careful attention to clients’ demand and satisfaction; often they appear to be more tailored to the providers’ needs. This implies a movement away from products ‘masked’ as microinsurance products but often mainly benefiting MFIs, such as credit-life insurance, towards paying more attention to the insurance needs of the poor. To be able to develop in this direction, it is crucial to obtain a better understanding of why people do or do not take up insurance products when offered: what limits the usage of insurance? Increased demand through well-informed choices of individuals is a prerequisite for scaling up microinsurance products to reach large numbers of poor people. A considerable body of research has been making careful

points on these issues, increasingly based on good evidence. Table 4 provides an overview of some of the most relevant demand side issues, and some of the papers that have discussed these issues. It is again important to highlight the peculiarity of health insurance vis-à-vis other other insurance products. The demand for health insurance is not solely a function of product attributes of the insurance, consumer education and appreciation of the insurance product, but also crucially depends on the quality of health care services offered.

Table 4. Understanding the demand for insurance?

Issues	Researchers involved	Evidence
Most important risk-management needs	Cohen and Sebstad (2006) Sebstad et al. (2006) researching demand for microinsurance	- health - loss of income earner - highly context specific, require careful market research
Successful product attributes	Churchill (2006) Leftley and Mapfumo (2006) McCord (2008)	- simple - affordable - valuable
Factors influencing uptake	Chankova et al. (2008) Gine et al. (2007b)	- education of household head - wealth
Literacy gaps	McCord (2001a) Chankova et al. (2008)	- lack of understanding of mechanisms behind insurance - lack of effort by insurance agents to explain products in a way that is understandable for low-education, illiterate groups
Improving trust and credibility in insurance providers	Radermacher et al. (2006) Schneider (2005) Gilson (2003)	- building on existing structures - education - careful marketing and sales strategies - arguments for subsidizing insurance premia for vulnerable groups
Willingness to pay	Dror et al. (2007)	- nominal willingness to pay is higher than estimated in previous studies - importance of household size as determinant of nominal willingness to pay

Cohen and Sebstad (2006) highlight the need to carefully study clients' insurance needs before introducing a new product, where market research can include studying (i) clients' needs, (ii) specific products, or (iii) the size of the potential market⁵. Analyzing demand studies from Uganda, Malawi, Philippines, Vietnam, Indonesia, Lao P.D.R., Georgia, Ukraine and Bolivia they find that the most prevalent risks relate to health and loss of a

⁵ See Sebstad et al. (2006) for guidelines on researching demand for microinsurance.

wage earner. However, despite these patterns, households' priorities regarding demand for insuring certain risks are nevertheless context specific and solid research is essential before entering a market.

There seems to be general agreement about the most important product attributes of microinsurance products from a client perspective: simple, affordable and valuable (Churchill, 2006; Leftley and Mapfumo, 2006; McCord, 2008). These factors are determinants of uptake and therefore determine the impact of microinsurance as well. An often identified constraint in selling insurance to poor households is a lack of understanding of insurance products (McCord, 2001a). More educated households have been found to be the ones who are more likely to take up insurance (Chankova et al., 2008; Gine et al., 2007b).⁶ Overcoming this constraint requires a dual effort to improve communication and financial education on risk-pooling, insurance and rights of policyholders tailored to low-educated and illiterate individuals on the one hand, and simplify policies on the other hand. Clients' understanding of insurance products is key not only to take up of insurance, but also to use and appreciation of the policy as well as satisfaction with the insurance. The impact of microinsurance on the welfare of the poorest households strongly depends on whether households are aware of the benefits of the insurance, can therefore make full use of it, and continue to stay members of their insurance policy. However, keeping products affordable implies keeping costs low. Therefore, more research is needed on innovative, cost-effective ways and channels of communication and financial education tailored to cater to low-educated, illiterate people.⁷

A serious constraint to the uptake of insurance has to be trust. The contrast of microinsurance with microcredit helps to see the difference between these two microinsurance activities. In the latter, money is offered first, and then lenders have to

⁶ This problem should not come as a surprise: even basic concepts of risk and insurance tend to be poorly understood in many poor settings (Platteau, 1997).

⁷ This problem is not just a problem of a poor understanding of formal insurance. Even the mere concepts of risk and of the principles of insurance, even in informal settings, are difficult to grasp. Platteau (1998) documents how fishing communities, despite facing clear risk, find it hard to understand fully the principles of insurance, including that they are not just 'savings' schemes so that premiums have to be returned 'in due course', and not just in probability.

find ways of ensuring that clients repay the loan – lenders have to find ways to ensure they can trust that repayment by clients will take place. In insurance, clients first part with their money, and then they have to trust the insurer that they will indeed get money (or a service, such as health care) when problems arise. Lenders have to trust borrowers; while insurers have to be trusted by clients. Radermacher et al. (2006) underline the importance of trust along these two dimensions: first, that the insurer is willing to make payments to clients; and second, that the insurer is able to deliver the payments. Trust is also essential for customer retention. Trust of individuals and communities can be built by education, building on existing structures, or through careful marketing and sales strategies. McCord (2008) underlines that a fine balance is required between acquisition of new technologies (which decrease costs by making the insurance product less labor intense) and human contact to educate policy holders and build trust. Despite its importance, there is little systematic knowledge about instruments and mechanisms to build trust (Schneider, 2005).

Dror et al. (2007) study households' willingness to pay, analyzing data from a bidding game conducted in more than 3000 households in India. They find a higher level of nominal willingness to pay compared to previous studies; further, they show that household income and nominal willingness to pay are positively correlated, while household income and willingness to pay as a percentage of household income is negatively correlated. Further, their results suggest that household size is the most important determinant of willingness to pay levels.

Willingness to pay could also be enhanced by simplifying premium collection methods and making premiums payable in higher frequencies could be helpful in promoting enrolment by low-income households (Chankova, 2008). Paying premiums should be in line with households' cash flows (Cohen and Sebstad, 2006).

Further Research: the demand for insurance?

There clearly is a need for more and careful analysis of the demand for insurance. The key is to offer products to clients that really offer value to clients, and understanding clients, their needs and their satisfaction with products is essential. At least as important is to understand whether and how clients can be retained. The key questions to understand are therefore (i) *why people buy or don't buy insurance products when offered*, and (ii) *why do people not renew their insurance?* At the end of this section, box 2 offers some methodological guidance useful when addressing some of these questions.

A first sub-set of questions addresses this issue of 'client-value' – what is offered to clients and how satisfied are they with these products. Obviously, any research has to be closely linked to questions discussed in the previous section, related to the actual impact on welfare outcomes, but here, the actual outcomes are not only important, but the focus here is more on the insurance product itself, focusing on the uptake and satisfaction of clients. Specific questions include: To what extent are clients satisfied with current microinsurance products? What do they value? What product attributes are the most important for them and why? What is the potential benefit or the actual client value of different microinsurance products for different groups in different contexts? For which risks and for whom can microinsurance provide better value in terms of appropriateness (demanded protection coverage), affordability (total costs) and accessibility (simplicity, physical access, convenience) compared to or in combination with other risk-management mechanisms (including credit, savings, insurance, informal schemes, safety nets, social security) used to date? What are access frontiers for different types of risks/products? How deep can a market-based insurance scheme reach? To what extent can microinsurance enhance value of basic social security packages (health care, maternity, pensions, unemployment benefits) for low-income households?

Besides these questions, analysis of demand, uptake and retention have to dig deeper into the market conditions and constraints to insurance provision. A key concern has to be an understanding of the potential market, to provide the necessary market intelligence to penetrate low-income markets. What is the size of the potential market in specific contexts and expected take up rate? Is there scope for market segmentation to assist

penetration and increased understanding of markets? There are also the key issues related to insurance understanding and literacy, and trust in insurance provision and providers. Relevant questions include: Why do consumers not trust insurance, insurance providers and system? How to build trust? How do households understand risk? Do they properly understand insurance concepts, for example as distinct from pooled savings? How are they understood in different cultural settings? What are the most important gaps in insurance literacy - knowledge (understanding of concepts), skills (being able to use insurance for effective risk-management), and attitudes (opinions, culture and self-confidence)?

Finally, insurance does not tend to be offered for free to be sustainable or to offer appropriate incentives. Questions requiring more answers include: How sensitive are potential clients to price changes? How much can different households be expected to be able to contribute to insurance?

Box 2. Methodological Notes on Demand-Related Research

- (a) For many of these questions, the variable of interest is the uptake of insurance. To allow a clear understanding of many of these issues, such as related to the link between price or other product attributes, a well-defined 'counterfactual' remains necessary, so that the comments above on impact analysis remain relevant. (As noted above, the counterfactual may involve participation in an informal institution (social insurance) or the use of livestock or other assets for self-insurance.) Similarly, for studies related to finding schemes that appear to have more credibility (e.g. schemes with more frequent interaction in the form of small payouts), the key tools for analysis are likely to be similar (i.e. making a comparison between different schemes, with well defined control groups). The same applies to studying the impact of information programmes on uptake.
- (b) However, there is room for other methods as well. The design issues related to developing credibility require further conceptual and theoretical work, while documenting cases in a comparative framework remains relevant. A study of the understanding of risk and of insurance may well have to go beyond standard economic, business or insurance analysis into the realm of psychology or anthropology.
- (c) The study of insurance behaviour is often done using willingness to pay or other hypothetical questioning. Caution is required as the relationship between actual insurance behaviour (such as subsequent uptake) and responses to willingness to pay is typically not strong. Experimental games may offer some insight but issues such as the long-term horizon of actual insurance relationships (with payouts often many years later if any) make the replication of actual circumstances relatively implausible in short game settings. In any case, revealed risk aversion and actual uptake of insurance are substantively different concepts, partly motivating the type of research proposed.

Source: Concept Note prepared by EUDN (2008).

4. Supply

Two key issues deserve specific attention when considering the research on the supply of microinsurance products. First, *developing and pricing microinsurance products* and secondly, *the relevant institutional models and delivery channels*. Table 5 presents an overview of selected studies.

Table 5. Key challenges and bottlenecks for widespread and sustainable provision?

Issues	Researchers involved	Key Conclusions
Developing and pricing microinsurance products	Brown and Churchill (2000a) Wipf et al. (2006) Leftley and Mapfumo (2006) Wipf and Garand (2006) McCord et al. (2006) Churchill and Cohen (2006)	Detailed suggestions on balancing inclusion, premiums, benefits and sustainability; need for professionalisation for pricing; involvement of insurance professionals.
Institutional models and delivery channels	McCord (2000a; 2000b; 2000c 2001a; 20001b, 2006; 2008) Fischer and Qureshi (2006) Leftley and Roth (2006) Radermacher and Dror (2006)	Arguments on agnosticism regarding institutional models is required; issues related to incentive contracts for agents

The first step in the design of an insurance product should be evaluating the insurability of the risks the product is intended to cover. Brown and Churchill (2000a) discuss a number of criteria, which include (i) a large number of similar units exposed to risk, (ii) limited policyholder control over the insured event, (iii) the existence of insurable interest, (iv) losses can be identified and measured, (v) losses should not be catastrophic, (vi) chance of loss is calculable and (vii) premiums are economically affordable. Leftley and Mapfumo (2006) highlight the importance of a focus on the demand side for developing a successful product, coupled with an iterating process of examining the operational and regulatory environment as well as risk carrier options. Insurers always have to strike a balance between inclusion, premiums, policy coverage and financial sustainability. The CHAT tool, developed by the Micro Insurance Academy, deals with the coverage-premium tradeoff by providing a menu of choices and letting clients chose their desired coverage and corresponding premium (Dror, 2007).

Composite (bundled) insurance products, as recommended by Cohen and McGuinness in McCord (2008), can be useful instruments to manage moral hazard and adverse selection problems and thus offer cheaper products. Nevertheless, Roth and Chamberlain (2006) warn that in practice the potential benefit of bundled microinsurance in terms of lower premiums is hardly passed on to clients.

Institutional models and delivery channels

McCord (2001a) contrasts four classical service delivery models: the partner-agent model, community based model, the full-service model, and the provider model.

In the *partner-agent model*, the insurer teams up with a local agent, for example, a microfinance institution, informal savings institution or other grass-root organizations. For example, in Uganda, FINCA Uganda cooperated with Nsambya Hospital Healthcare Plan (NHHP), a health financing entity, to provide health insurance to its clients (McCord, 2000a). Under this setup, the comparative advantage of the insurer in developing and pricing policies is combined with the comparative advantage of the local agent by having experience in reaching the poor, with networks already in place, and enjoying the trust of large numbers of clients. However, McCord (2006) also discusses a number of disadvantages for insurers, agents and clients. For the partner-agent model to work for the poor, he stresses that (i) the insurance product and distribution has to be driven by clients' needs, (ii) the regulatory framework should facilitate simple procedures while at the same time protecting customers' rights, and (iii) MFIs should involve clients in product development and obtain feed-back, to use this information in negotiations with the insurer. In India, Tata-AIG has developed a model of micro-agents in addition to MFIs as agents. NGOs are contracted to recommend individuals in communities to form a so-called community rural insurance group (CRIG) which then performs an agent's role (Roth and Athreye, 2005).

In the *community-based model* the insurance is entirely owned and managed by the community members (the policy holders). It is not-for-profit, and characterized by its participatory processes and the important role of social cohesion. Community-based

insurances, or mutual insurances, can be found in a variety of set-ups, including: (i) standalone mutual (or cooperative) insurance providers (for example, CARD MBA in the Philippines), (ii) insurance companies affiliated to a network of financial cooperatives such as savings and credit cooperatives (for example, MUSCCO in Malawi and ServiPeru in Peru) and (iii) networks of mutual insurance associations (for example, the Union Technique de la Mutualité Malienne) (Fischer and Qureshi, 2006).

Under the *full-service model*, the insurance provider assumes all functions, from product development to marketing, sales, premium collection and claims processing. An example for the full-service model is the Self-Employed Women's Association Insurance (SEWA) in India. Extending this model to also include the provision of, for example, health care, yields the *provider model*. GRET Cambodia is an example of a health microinsurance following the provider model (McCord, 2001b).

Leftley and Roth (2006) discuss alternative institutional approaches, including the use of a protected cell company, alternative administrative procedures such as amended agency agreements, or outsourcing to third party administrators, as well as alternative distribution channels, such as retailers, workers' unions, cell phone companies, or burial societies and ROSCAs.

In conclusion, many of the above discussed models are under development and 'agnosticism about insurance models' (McCord, 2008) is needed to establish the most effective delivery channels for different risk categories. Further knowledge is also required regarding effective marketing and selling, and underlying incentive contracts of agents. Francis Sommerwell, managing director of microcare (in McCord, 2008) points out the importance of customer retention for building trust and for an insurance to function. To provide adequate incentives, agents get higher commission for renewals than new sales.

Further research

Key indicators for supply analysis are efficiency and outreach. A massive research agenda is still outstanding, as much learning will have to be done based on actual experiences, focusing on the supply value chain, but also conceptually and theoretically. The main question is: *How to expand access to valuable products in an efficient way?* The questions below are structured around supply value chain concerns, which is key from the practitioners' point of view; delivery models and linkages; pricing issues and the supply of consumer education.

Questions around the supply value chain are: How can providers improve efficiency of business processes to expand access to valuable products? Why certain processes and solutions in the supply value chain presented below work and why some do not work? What are costs in the value chain and how they can be trimmed? This is a broad area, covering issues such as getting the products right, organising efficient distribution systems, including the delivery channels, the appropriate bundling with other insurance financial and non-financial products, sales and management models, etc. Further questions include: How can technology help to improve efficiencies in the supply value chain? What are the costs and benefits of various technological solutions?

Next, one needs more research on possible delivery models: Which delivery models work best in specific contexts in terms of insurance uptake, sustainability and efficiency for providers, and the highest client value? What are cost-effective linkages between market-based microinsurance and informal schemes or social security schemes?

Pricing insurance is also crucial. Research questions include: How can providers overcome data limitations for actuarial pricing? What is the rationale and role of subsidies? What are the potential detrimental effects on efficiency? Finally, if trust and literacy are crucial constraints on the demand, the content of consumer education as well as its delivery require more research. How should it be organised? Who should do it – independent groups or insurers? What should be addressed?

Box 3 below offers some generic methodological issues when researching these questions. Of course, different products dealing with different risks face different supply side problems, leading to specific other questions to be addressed. In box 4, as an example, some of these more specific questions are articulated for the contrasting issues related to health insurance delivery and agricultural insurance delivery.

Box 3. Methodological Notes on Supply-Related Research

- (a) For many of these questions, the variable of interest is not easily defined, as it refers to the efficiency or sustainability of microinsurance operations. The need for well-defined ‘counterfactuals’ remains necessary. For some issues, such as comparing different models of delivery (e.g. individual versus group based), the principles and methods of impact analysis as discussed earlier would still be most relevant. For others, the evidence base will be hard to construct (such as comparative empirical work on institutional models, which rarely operate in comparable contexts).
- (b) By implication, much of the work will have to be based on careful theoretical/conceptual work, supplemented with carefully documented case studies to offer empirical evidence. The virtues of theoretical analysis (such as on delivery models), should not be underestimated, even if based on rather stylised differences.
- (c) In general, this work will have to be done in the context of a limited information base, and efforts to build this information base in a systematic and, if possible, quantitative way should be strongly encouraged.

Source: Concept Note prepared by EUDN (2008).

Box 4: Specific questions for health versus agricultural insurance

Further questions for health insurance delivery

How to limit adverse selection for both comprehensive indemnity packages and defined benefit schemes? What is the best use of co-payments and deductibles to limit moral hazard without undermining demand for products and discouraging clients from seeking preventive health care? What is the impact of exclusions on performance and client value? What are good practices to finance and collect premiums cost effectively? How to reimburse health providers directly so that claims are cashless for policyholders?

How to reduce health claims costs, including prevention and negotiations with health care and pharmaceutical providers? How to control the risk of fraud? How can health insurers encourage greater use of, and improvements to, public health or government health care services?

What is the role of technology and Third Party Administrators in increasing efficiencies of the health insurance supply chain? What is the right reinsurance mechanism for health insurance?

Further questions for weather index and other agriculture insurance specifics

How to build weather and other indexes to create transparent and efficient index insurance products? What are relevant triggers for crop products? How to reduce basis risk? What is the sufficient level of correlation between bad weather and bad crop yields? How to overcome the lack of historic weather data? What is the impact of climate change on the usefulness of historic data?

What is necessary weather infrastructure to collect the right data for index insurance? To what

extent local communities can be involved in designing weather maps?
How to market index insurance products, ensure transparency and understanding by the market?
What is the impact of disaster relief or food aid on the market for index insurance?
Can index insurance be extended beyond farmers to ensure its sustainability and share its benefits with other groups?
What are proper reserves and reinsurance policies needed for index insurance?
How to reduce fraud and moral hazard in delivering livestock insurance?
What is feasibility of other property insurance products for agriculture?

Bibliography

Ahmed, M.U., Islam, S.K., Quashem, M. and Ahmed, N. (2005), Health Microinsurance: A comparative study of the Three Examples in Bangladesh, CGAP Good and Bad Practices Case Study No. 13 (Geneva, ILO Social Finance Programme).

Alderman, H., Hoddinott, J. and B. Kinsey, J. (2006), Long-term consequences of early childhood malnutrition, *Oxford Economic Papers*, 58: 450-474.

Almeyda, G. and de Paula Jaramillo, F. (2005). La Equidad Seguros, Colombia, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 12 (Geneva, ILO Social Finance Programme).

Attanasio, O. and Rios-Rull, J.V. (2000). Consumption smoothing in island economies: can public insurance reduce welfare? *European Economic Review*, 44(7), 1225-1258.

Banerjee, A. (2005). The Two Poverties, in S. Dercon (ed.), *Insurance Against Poverty*, Oxford University Press.

Bennett, S., Creese, A. and Monasch, R. (1998). Health Insurance Schemes for People Outside Formal Sector Employment, World Health Organization, Geneva, Switzerland.

Bie Lilleor, H., X.Gine, R.M.Townsend and J.Vickery (2005). Weather Insurance in Semi-Arid India.

Bigsten, A., Collier, P., Dercon, S., Fafchamps, M., Gauthier, B., Gunning, J.W., Oduro, A., Oostendorp, R., Pattillo, C., Soderbom, M., Teal, F. and Zeufack, A. (2003). Risk Sharing in Labour Markets, *World Bank Economic Review*, 17(3):349-366.

Brown, W. and Churchill, C.F. (2000a). Insurance Provision in Low Income Communities. Part I: A primer on insurance principles and products, USAID – Microenterprise Best Practices (MBP) Project.

Brown, W. and Churchill, C.F. (2000b). Insurance Provision in Low Income Communities. Part II: Initial Lessons from Micro-Insurance Experiments for the Poor, USAID – Microenterprise Best Practices (MBP) Project.

Chankova, S., Sulzbach, S. and Diop, F. (2008). Impact of mutual health organizations: evidence from West Africa, *Health Policy and Planning*, 23(4):264-276.

Chatterjee, M. (2005). Microinsurance – a note on the State of the Art. Note on workshops organized by SEWA in September 2003 and September 2004.

Chou, S.-Y., Liu, J.-T. and Hammitt, J.K. (2003). National Health Insurance and Precautionary Saving: Evidence from Taiwan, *Journal of Public Economics*, 87(9-10): 1873-94.

- Churchill, C. (2006). What is insurance for the poor? in C. Churchill (ed.), *Protecting the poor, A microinsurance compendium*, International Labor Organisation, Geneva.
- Churchill, C. and Cohen, M. (2006). Marketing Microinsurance, in C. Churchill (ed.), *Protecting the poor, A microinsurance compendium*, International Labor Organisation, Geneva.
- Churchill, C. and Pepler, T. (2004). TUW SKOK, Poland, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 2 (Geneva, ILO Social Finance Programme).
- Cohen, M. and Sebstad, J. (2006). The demand for microinsurance, in C. Churchill (ed.), *Protecting the poor, A microinsurance compendium*, International Labor Organisation, Geneva.
- Deaton, A. (1997). *The Analysis of Household Surveys: A Microeconomic Approach to Development Policy*. Johns Hopkins University Press, Baltimore, Maryland.
- Dercon, S. (1996). Risk, Crop Choice and Savings: Evidence from Tanzania, *Economic Development and Cultural Change*, 44(3): 385-514.
- Dercon, S. (2005). Risk, Insurance and Poverty: A Review, in S. Dercon (ed.), *Insurance against Poverty*, Oxford University Press.
- Dercon, S. (2008). Risk, Poverty, and Human Development: what do we know, what do we need to know?, background paper to the Human Development Report 2008.
- Dercon, S. and Christiaensen, L. (2007). Consumption risk, technology adoption and poverty traps: evidence from Ethiopia, World Bank Policy Research Working Paper 4257.
- Dercon, S. and Hoddinott, J. (2005). Health, Shocks and Poverty Persistence, in S. Dercon (ed.), *Insurance against Poverty*, Oxford University Press.
- Dercon, S. and Krishnan, P. (2003). Risk Sharing and Public Transfers, *Economic Journal*, 113(486): C86-C94.
- Dong, H., Bogg, L., Wang, K., Rehnberg, C., Diwan V. (1999). A description of outpatient drug use in rural China: Evidence of differences due to insurance coverage, *International Journal of Health Planning and Management*, 14: 41–56.
- Dror, I. (2007). Demystifying Micro Health Insurance Package Design - Choosing Healthplans All Together (Chat), *Microfinance Insights*, 4:17-19.

- Dror D.M., Radermacher, R. and Koren, R.(2007). Willingness to Pay for Health Insurance Among Rural and Poor Persons: Field Evidence from Seven Micro Health Insurance Units in India, *Health Policy*, (82):1.
- Dror, D. M., Koren, R., and Steinberg, D.M. (2006). The Impact of Filipino Micro Health Insurance Units on Income-Related Equality of Access to Healthcare, *Health Policy*, 77(3): 304–317.
- Ekman, B. (2004). Community-based health insurance in low-income countries: a systematic review of the evidence, *Health Policy and Planning*, 19: 249–70.
- Elbers, C., Gunning, J.W. and Kinsey, B. (2007). Growth and Risk: Methodology and Micro-evidence, *World Bank Economic Review*, 21(1): 1-20.
- Elbers, C., J.W. Gunning and L. Pan (2008), Insurance and rural welfare: what can panel data tell us, *Applied Economics*, published on line.
- Enarsson, S. and Wirén, K. (2005). MUSCCO, Malawi Union of Savings and Credit Cooperatives, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 8 (Geneva, ILO Social Finance Programme).
- Enarsson, S. and Wirén, K. (2006). ALMAO and YASIRU, Sri Lanka, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 21 (Geneva, ILO Social Finance Programme).
- Fafchamps, M., Gunning, J.W. and Oostendorp, R. (2000). Inventories and Risk in African Manufacturing, *Economic Journal*, 110(466): 861-893.
- Fischer, K., Hathie, I. and Sissouma, I. (2006a). Mutual health insurance, CRMST, Senegal, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 24 (Geneva, ILO Social Finance Programme).
- Fischer, K., Sissouma, I. and Hathie, I. (2006b). L’Union Technique de la Mutualité Malienne, Mali, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 23 (Geneva, ILO Social Finance Programme).
- Fischer, K., and Qureshi, Z. (2006). Cooperatives and insurance: The mutual advantage, in C. Churchill (ed.), *Protecting the poor, A microinsurance compendium*, International Labor Organisation, Geneva.
- Garand, D. (2005). VimoSEWA, India, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 16 (Geneva, ILO Social Finance Programme).
- Gautier, B., Boutbien, A. and Galland, B. (2005). L’Union des Mutuelles de Santé de Guinée Forestière, Guinea, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 17 (Geneva, ILO Social Finance Programme).

- Gertler, P. and Gruber, J. (2002). Insuring Consumption against Illness, *American Economic Review*, 92(1), 51-76.
- Gilson, L. (2003). Trust and development of health care as a social institution. *Social Science & Medicine*, 56, 1453–1468.
- Gine, X., Townsend, R.M. and Vickery, J. (2007a). Statistical Analysis of Rainfall Insurance Payouts in Southern India, *American Journal of Agricultural Economics*, 89(5): 1248-1254.
- Gine, X., Townsend, R.M. and Vickery, J. (2007b). Patterns of Rainfall Insurance Participation in Rural India, Policy Research Working Paper Series 4408, The World Bank.
- Gine, X., and Yang, D. (2007). Insurance, Credit, and Technology Adoption: Field Experimental Evidence from Malawi, Policy Research Working Paper Series 4425, The World Bank.
- Gruber, J. and Yelowitz, A. (1999). Public Health Insurance and Private Savings, *Journal of Political Economy*, 107(6): 1249-74.
- Guérin, O. (2006). Association d'Entraide des Femmes, Benin, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 22 (Geneva, ILO Social Finance Programme).
- Gumber, A. (2001). Hedging the Health of the Poor: The Case for Community Financing in India. Health, Nutrition and Population Discussion Paper, World Bank, Washington DC.
- Herrera, C. and Miranda, B. (2004). Columna, Guatemala, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 5 (Geneva, ILO Social Finance Programme).
- Hoddinott, J. and Kinsey, B. (2001). Child growth in a time of drought, *Oxford Bulletin of Economics and Statistics*, 63: 409-436.
- Holst, J. (2005). Health microinsurance: A comparison of four publicly run schemes, Latin America, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 18 (Geneva, ILO Social Finance Programme).
- International Cooperative and Mutual Insurance Federation (ICMIF). (2005). Lessons learnt the hard way, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 6 (Geneva, ILO Social Finance Programme).

- Jain, Shashi. 1999. Basic Social Security in India, in Wouter van Ginneken (ed.), *Social Security for the Excluded Majority: Case Studies from Developing Countries*. International Labor Organization, Geneva, Switzerland.
- Jowett, M. (2003). Do informal risk sharing networks crowd out public voluntary health Insurance? Evidence from Vietnam, *Applied Economics*, 35: 1153–1161.
- Jowett M., Contoyannis P., Vinh N.D. (2003). The impact of public voluntary health insurance on private health expenditures in Vietnam, *Social Science and Medicine*, 56: 333–342.
- Jütting, J. (2004). Do community-based health insurance schemes improve poor people's access to health care? Evidence from rural Senegal, *World Development*, 32: 273–88.
- Leftley, R. (2005). Technical assistance for the promotion of microinsurance: The experience of Opportunity International, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 11 (Geneva, ILO Social Finance Programme).
- Leftley, R. and Mapfumo, S. (2006). Effective microinsurance programs to reduce vulnerability. Opportunity International Network.
- Leftley, R. and Roth, J. (2006). Beyond MFIs and community-based models: Institutional alternatives, in C. Churchill (ed.), *Protecting the poor, A microinsurance compendium*, International Labor Organisation, Geneva.
- Lybbert, T.J., C.B. Barrett, S. Desta and D.L. Coppock (2004), Stochastic wealth dynamics and risk management among a poor population, *Economic Journal*, 114: 750-777.
- Manje, L. (2005). Madison Insurance, Zambia, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No.10 (Geneva, ILO Social Finance Programme).
- McCord, M.J. (2000a). Microinsurance in Uganda: a case study of an example of the partner-agent model of microinsurance provision – AIG/FINCA Uganda – group personal accident insurance, Nairobi: MicroSave-Africa.
- McCord, M.J. (2000b). Microinsurance in Uganda: a case study of an example of the partner-agent model of microinsurance provision - NHHP/FINCA Uganda – Health Care Financing Plan, Nairobi: MicroSave-Africa.
- McCord, M.J. (2000c). Microinsurance: A Case Study of an Example of the Mutual Model of Microinsurance Provision: UMASIDA, Nairobi: MicroSave-Africa.
- McCord, M.J. (2001a). Health care microinsurance - case studies from Uganda, Tanzania, India and Cambodia, *Small Enterprise Development*, 12(1): 25-38.

McCord, M.J. (2001b). Microinsurance: A Case Study of an Example of the Provider Model of Microinsurance Provision: GRET Cambodia. MicroSave, Nairobi.

McCord, M.J. (2006). The Partner-Agent Model: Challenges and Opportunities, in C. Churchill (ed.), Protecting the poor, A microinsurance compendium, International Labor Organisation, Geneva.

McCord, M.J. and Churchill, C. (2005). Delta Life, Bangladesh, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 7 (Geneva, ILO Social Finance Programme).

McCord, M.J., Botero, F., and McCord, J.S. (2005). AIG Uganda: A member of the American International Group of Companies, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 9 (Geneva, ILO Social Finance Programme).

McCord, M.J. and Buczkowski, G. (2004). CARD MBA, The Philippines, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 4 (Geneva, ILO Social Finance Programme).

McCord, M.J., Buczkowski, G., and Saksena, P. (2006). Premium collection: Minimizing transaction costs and maximizing customer service, in C. Churchill (ed.), Protecting the poor, A microinsurance compendium, International Labor Organisation, Geneva.

McCord, M.J., Isern, J., and Hashemi, S. (2001). Microinsurance: A Case Study Example of the Full Service Model of Microinsurance Provision, Self-Employed Women's Associations. MicroSave-Africa.

McCord, M.J. (2008). Visions of the future of Microinsurance, and thoughts on getting there, Microinsurance note no. 9, United States Agency for International Development.

Morduch, J. (1990). Risk, Production and Saving: Theory and Evidence from Indian Households, Harvard University, Manuscript.

Morduch, J. (1995). Income Smoothing and Consumption Smoothing, *Journal of Economic Perspectives*, 9(3):103-114.

Morduch, J. (1999). Between the State and the Market: Can Informal Insurance Patch the Safety Net?, *World Bank Research Observer*, 14(2):187-207.

Morduch, J. (2006). Microinsurance: the next revolution? in A.V. Banerjee, R. Benabou and D. Mookherjee (eds.), Understanding Poverty, Oxford University Press.

Musau, S. (1999). Community-Based Health Insurance: Experiences and Lessons Learned from East and Southern Africa, Technical Report No. 34. Bethesda, MD: Partnerships for Health Reform Project, Abt Associates Inc.

- Pan, L., 2008, Poverty, Risk and Insurance: Evidence from Ethiopia and Yemen, unpublished PhD thesis, VU University Amsterdam.
- Platteau, J.P. (1997), Mutual Insurance as an Elusive Concept in Traditional Rural Societies, *Journal of Development Studies*, 33 (6): 764-96.
- Preker, A.S., Carrin, G., Dror, D.M., Jakab, M., Hsiao, W. and Arhin, D. (2002). Effectiveness of Community Health Financing in Meeting the Cost of Illness, *Bulletin of the World Health Organization*, 80(2): 143-150.
- Preker, A.S. (2007). The Evolution of Health Insurance in Developing Countries, in Alexander S. Preker, Richard M. Scheffler and Mark C. Bassett (eds.), *Private Voluntary Health Insurance in Development: Friend or Foe?*, Washington D.C.: The World Bank.
- Radermacher, R. and Dror, I. (2006). Institutional options for delivering health microinsurance, in C. Churchill (ed.), *Protecting the poor, A microinsurance compendium*, International Labor Organisation, Geneva.
- Radermacher, R., van Putten-Rademacher, O., Müller, V., Wig, N. and Dror, D. (2005a). Karuna Trust, Karnataka, India, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 19 (Geneva, ILO Social Finance Programme).
- Radermacher, R., van Putten-Rademacher, O., Müller, V., Wig, N. and Dror, D. (2005b). Yeshasvini Trust, Karnataka - India, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 20 (Geneva, ILO Social Finance Programme).
- Radermacher, R., Dror, I., and Noble, G. (2006). Challenges and strategies to extend health insurance to the poor, in C. Churchill (ed.), *Protecting the poor, A microinsurance compendium*, International Labor Organisation, Geneva.
- Ranson, K.M. (2001). The impact of SEWA's Medical Insurance Fund on Hospital Utilization and Expenditure: A Household Survey. Health, Nutrition and Population Discussion Paper, World Bank, Washington DC.
- Ranson, K. M. (2004). The SEWA Medical Insurance Fund in India, in A. Preker and G. Carrin (ed.), *Health Financing for Poor People: Resource Mobilization and Risk Sharing*. World Bank, Washington D.C.
- Rodríguez, M. and Miranda, B. (2004). ServiPerú, Peru, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 1 (Geneva, ILO Social Finance Programme).

Rosenzweig, M. and Binswanger, H. (1990). Productivity, health and inequality in the intrahousehold distribution of food in low income countries. *American Economic Review*, 80:1139-1156.

Rosenzweig, M. and Binswanger, H. (1993). Wealth, Weather Risk and the Composition and Profitability of Agricultural Investments, *Economic Journal*, 103:56-78.

Rosenzweig, M.R. and Wolpin, K. (1993), Credit market constraints, consumption smoothing, and the accumulation of durable production assets in low-income countries: investment in bullocks in India, *Journal of Political Economy*, 101: 223-244.

Roth, J. and Athreye, V. (2005). TATA-AIG Life Insurance Company Ltd., India, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 14 (Geneva, ILO Social Finance Programme).

Roth, J. and Chamberlain, D. (2006). Retailers as microinsurance distribution channels, in C. Churchill (ed.), *Protecting the poor, A microinsurance compendium*, International Labor Organisation, Geneva.

Roth, J., Churchill, C., Ramm, G. and Namerta. (2005). Microinsurance and microfinance institutions: Evidence from India, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 15 (Geneva, ILO Social Finance Programme).

Schneider, P. (2005). Trust in micro-health insurance: an exploratory study in Rwanda. *Social Science and Medicine*, 61:1430-38.

Sebstad, J., Cohen, M. and McGuinness, E. (2006). Guidelines for market research on the demand for microinsurance, microREPORT #69, United States Agency for International Development.

Sen, A.K. (1981). *Poverty and famines: An Essay on Entitlement and Deprivation*, Oxford: Clarendon Press New York.

Sriram, M.S. (2005). Expanding Financial Services Access for the Poor: The Transformation of SPANDANA, IIMA Working Paper 2005-04-03, Indian Institute of Management Ahmedabad.

Svensson, J. (2003). Who Must Pay Bribes and How Much? *Quarterly Journal of Economics*, 118(1): 207-30.

Townsend, R.M. (1995). Consumption Insurance: An Evaluation of Risk-Bearing Systems in Low-Income Economies, *Journal of Economic Perspectives*, 9(3):83-102.

Tran, N. and Yun, T. S. (2004). TYM's Mutual Assistance Fund, Viet Nam, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 3 (Geneva, ILO Social Finance Programme).

Tremblay, C., Quirion, M., Langlois, S., and Klutzé, F. (2006). MAFUCECTO, Togo, CGAP Working Group on Microinsurance, Good and Bad Practices Case Study No. 25 (Geneva, ILO Social Finance Programme).

Wagstaff, A. (2007). Health Insurance for the Poor: Initial Impacts of Vietnam's Health Care Fund for the Poor, World Bank Policy Research Working Paper 4134. The World Bank.

Wagstaff, A., Lindelow, M., Jun, G., Ling, X and Juncheng, Q. (2007). Extending Health Insurance to the Rural Population: An Impact Evaluation of China's New Cooperative Medical Scheme, World Bank Policy Research Working Paper 4150. The World Bank.

Wagstaff, A. (2008). Measures for Financial Protection in Health, World Bank Policy Research Working Paper 4554. The World Bank.

Wagstaff, A. and Pradhan, M. (2005): Health Insurance Impacts on Health and Nonmedical Consumption in a Developing Country, World Bank Policy Research Working Paper 3563. The World Bank.

Wipf, J., and Garand, D. (2006). Pricing Microinsurance Products. in C. Churchill (ed.), Protecting the poor, A microinsurance compendium, International Labor Organisation, Geneva.

Wipf, J., and Liber, D., and Churchill, C. (2006). Product design and insurance risk management. in C. Churchill (ed.), Protecting the poor, A microinsurance compendium, International Labor Organisation, Geneva.

World Bank. (2005). Mongolia Livestock Insurance Project. Project Appraisal Document. May 2, 2005.

Young, P., Kiyaga, E. and Mukwana, P. (2006): Microinsurance: Exploring Ways to Assess Its Impact. Microfinance Opportunities.

Annex. Overview of selected micro insurance programmes

Insurer	Location and Start	Current Area of Insurance	References
Activists for Social Alternatives (ASA)	India, 1986	life	Roth et al. (2005)
All Lanka Mutual Insurance Organization (ALMAO)	Sri Lanka, 2002	life, accident, loan protection	Enarsson and Wirén (2006)
American International Group (AIG) Uganda/ Foundation for International Community Assistance (FINCA) Uganda	Uganda, 1997	group personal accident insurance	McCord (2000a) McCord et al. (2005) Young et al. (2006)
Association d'Entraide des Femmes (AssEF)	Benin, 2003	health	Guérin (2006)
Bangladeshi Rural Advancement Committee (BRAC)	Bangladesh, 2001	health	Ahmed et al (2005)
Bienestar Magisterial (BM)	El Salvador, 1969	health	Holst (2005)
Center for Agriculture and Rural Development Mutual Benefit Association (CARD MBA)	Philippines, 1999	life, credit life, disability	McCord and Buczkowski (2004)
Chogoria Hospital Insurance Scheme	Kenya, 1991	health	Musau (1999)
Christian Enterprise Trust Zambia (CETZAM)	Zambia, 1995	credit life, funeral, property	Leftley (2005)
Columna	Guatemala, 1993	credit life, life savings, auto, fire and allied perils, theft	Herrera and Miranda (2004)
Coordination régionale de mutuelles de santé de Thiès (CRMST)	Senegal	health	Fischer et al. (2006a) Chankova et al. (2008)
Delta Life	Bangladesh, 1986	endowment	McCord and Churchill (2005)
Government of Mongolia	Mongolia	index-based livestock insurance	World Bank (2005)
Grameen Kalyan (GK)	Bangladesh, 1997	health	Ahmed et al. (2005)
Groupe de Recherche et d'Echanges Technologiques (GRET)	Cambodia, 1998	health	McCord (2001b) Brown and Churchill (2000b)
ICICI Lombard/ BASIX	India, 2003	weather-based insurance	Bie Lilleor et al. (2005) Gine et al. (2007a) Gine et al. (2007b)
Insurance Association of Malawi	Malawi	weather-based insurance	Gine and Yang (2007)
International Cooperative and Mutual Insurance Federation (ICMIF)	Members in 67 countries, founded in 1992	reinsurance, development, market intelligence, investment, training	International Cooperative and Mutual Insurance Federation (ICMIF) (2005)

Insurer	Location and Start	Current Area of Insurance	References
Karuna Trust	India, 1987	health	Radermacher et al. (2005a)
La Equidad Seguros	Colombia, 1970	life, disability	Almeyda and Jaramillo (2005)
Madison Insurance	Zambia, 2000	credit life, funeral	Manje (2005)
Malawi Union of Savings and Credit Cooperatives (MUSCCO)	Malawi, 1980	credit life, life savings	Enarsson and Wirén (2005)
Mutuelle d'assurance de la FUCEC-Togo (MAFUCECTO)	Togo, 1989	credit life	Tremblay et al. (2006)
Nnsambya Hospital Healthcare Plan (NHHP)/FINCA Uganda	Uganda, 1999	health	McCord (2000b)
Seguro Basico de Salud (SBS)	Bolivia, 1999	health	Holst (2005)
Seguro Integral (SI)	Paraguay, 2002	health	Holst (2005)
Seguro Materno-Infantil (SMI)	Peru, 1998	health	Holst (2005)
Self Help Promotion for Health and Rural Development (SHEPHERD)	India, 1995	life, health, accidental death, livestock, asset	Roth et al. (2005)
ServiPerú	Peru, 1994	life, credit life, health, savings, funeral, motor	Rodríguez and Miranda (2004)
Society for Social Services (SSS)	Bangladesh, 1993	health	Ahmed et al. (2005)
Spandana	India, 1992	credit life, spouse's death, asset	Roth et al. (2005) Sriram (2005)
Tao Yeu May's Mutual Assistance Fund (TYM)	Vietnam, 1993	credit life, health, disability, funeral	Tran and Yun (2004)
Tata-AIG Life Insurance Company Ltd.	India, 2000	life	Roth and Athreye (2005)
Taytay Sa Kauswagan (TSKI)	Philippines, 1986	life, credit life	Leftley (2005)
TUW SKOK	Poland, 1998	accidental death and disability, property, savings completion	Churchill and Pepler (2004)
UMASIDA	Tanzania, 1997	health	McCord (2000c)
Union des Mutuelles de Santé de Guinée Forestière (UMSGF)	Guinea, 1999	health	Gautier et al. (2005)
Union Technique de la Mutualité Malienne (UTM)	Mali, 1998	health	Fischer et al. (2006b)
VimoSEWA (SEWA-Self-Employed Women's Association Insurance)	India, 1992	life, health, accident, property	Chatterjee (2005) Ranson (2004) Bennett et al (1998) Jain (1999)

Insurer	Location and Start	Current Area of Insurance	References
			Garand (2005) McCord et al. (2001)
Yasiru Mutual Provident Fund (Yasiru)	Sri Lanka, 2000	life, accident, disability, hospitalization	Enarsson and Wirén (2006)
Yeshasvini Trust	India, 2003	health	Radermacher et al. (2006)