Introduction and Overview

“The accepted human rights are food, shelter, health and education, and the basic responsibility of a society is to make sure that an environment exists so that people can have these things. Employment is also a right, but society can’t assure wage-based work for everybody, so the alternative is self-employment. The big financial institutions currently ignore almost two-thirds of the world’s population. So I say the right to credit should have the topmost priority on the list of human rights.”

(Muhammad Yunus)

This somewhat over-subtle statement of Yunus shows his vision of broadening access to financial services to everybody in the world (Yunus 2003). Due to the fact that only half of the population in many developing countries hold an account with a financial institution, development theorists also see the lack of access to financial markets as critical for generating income and wealth inequality (World Bank 2008). Several reasons for these limited financial markets, i.e. credit, savings and insurance markets, are identified by academics in many developing countries. The first reason why banks are inactive in the field of poor customers is the prevalence of a high number of very small transactions, which leads to far more expensive transaction costs compared to rich customers with significantly larger and fewer transactions, so that these possible target groups are unattractive for normal banks (Armendáriz and Morduch 2010).

Secondly, information asymmetries between financial service providers and possible clients, i.e. moral hazard and adverse selection (Akerlof 1970, Rothschild and Stiglitz 1976, Browne and Doerpinghaus 1993, Cawley and Phillipson 1999, Winter 2000, Abbring et al. 2003), are reasons for the fact that formal-sector financial institutions have such a low profile in low-income communities. In the case of lending, moral hazard arises when the bank cannot observe whether the customers are making the full effort for a successful investment of the loan amount in a project or whether they are engaging in risky behaviour which raises the risk of default (Rothschild and Stiglitz 1976, Cawley and Phillipson 1999, Armendáriz and Morduch 2010, Winter 2000). Therefore, traditional banks require collateral as security for the loan, which the poor typically lack; thus, they are excluded from credit access by their limited liability (Armendáriz and Morduch 2010). Adverse selection arises when banks cannot determine whether the borrower’s project is low or high risk or whether one project or borrower is riskier than others (Akerlof 1970, Rothschild and Stiglitz 1976, Browne and Doerpinghaus 1993, Cawley and Phillipson 1999, Armendáriz and Morduch 2010). All borrowers are then charged the same interest rates, so that low-risk borrowers might pay more or refuse to borrow and the
banks remain with a loan portfolio of riskier borrowers than average. Due to these inadequate financial markets, “the promise is that microfinance can indeed do better than what exists” (Armendáriz and Morduch 2005: 34); that is, it can reduce transaction costs, avoid information problems through a close relationship with clients and by hiring loan officers out of the related communities, provide incentives or mechanisms such as group loans to compensate for the limited liability, and so ultimately broaden the access to financial services for the poor.

The microfinance movement has its roots in several ideas regarding the provision of banking services to everyone. As an example from developed countries, for instance, the outgrowth of the cooperative banking movement started in the 19th century in Germany, which has since largely targeted banking for everyone, including the provision of access to financial services, in particular credit, to low-income groups for over a century. Nevertheless, the most famous instance and at the same time the impetus for the emergence of microfinance arose in 1976, when Muhammad Yunus, an economist teaching at Chittagong University in the southeast of Bangladesh, started experiments by lending small amounts of money to poor households. These households were located in the village of Jobra close to the University, and Yunus lent them money to run simple business activities. Out of these experiments, he built the Grameen Bank in Bangladesh, and by June 2008, the bank had 7.5 million clients all over Bangladesh (Armendáriz and Morduch 2010). Following the model of the Grameen Bank, microfinance institutions (MFIs) have been built all over the world in the past three decades, based on Yunus’ experiments rather than on earlier experiences or standard banking models in developed countries (Armendáriz and Morduch 2010). For this successful innovation, Muhammad Yunus and the Grameen Bank of Bangladesh received the Nobel Peace Prize in 2006, following the International Year of Microcredit celebrated in 2005 by the UN, both of which have significantly raised the public awareness of microfinance.

In developing countries, households and individuals are faced by risky events that threaten their lives, health and property, events such as death, illness, injury and accident (Holzmann and Joergensen 2000, Siegel et al. 2001). Sources of vulnerability include the high correlation of poverty and ill health, the riskiness of agricultural occupations, employment instability within the informal sector, and the general insecurity that arises from weak legal protections (Siegel et al. 2001, Karlan and Morduch 2009). In most of the developing world low-income households are disproportionately vulnerable to risk, as they lack the adequate means to manage or minimise their exposure to risk (Holzmann and Joergensen 2000, Siegel et al. 2001). Similar to any other financial market,
such as the credit market, the access to and the provision of insurance is still limited in many developing countries (Roth et al. 2007, World Bank 2008). Hence, the poor depend highly on very costly and mostly insufficient traditional informal coping mechanisms, which are not adequate for smooth consumption (Morduch 1994, Townsend 1995, Dercon 2004). The same is true for the only infrequently provided social security measures in many developing countries (Siegel et al. 2001). Therefore, low-income households are mostly only partially insured against income shocks in developing countries (Morduch 1995, Townsend 1995, Lim and Townsend 1998), so that in the case of shocks to a household’s income such as the death of a household member, the poor remain unable to insure against the consumption downturns of such risky events, which in the long run might induce famine or death. In such a case, microfinance promises to provide means which offer consumption smoothing to prevent losses resulting from future hazards, to cope with the present consequences of experienced shocks or to provide help over periods of cyclical downturns.

Initially limited to microcredit, microfinance has become more and more demand-oriented and diversified, as “low-income households can profit through access to a broader set of financial services than just credit” (Armendáriz and Morduch 2005: 147, Zeller and Sharma 2002). Although the idea of microinsurance emerged in the 1990s, the field of microinsurance\(^1\) is still young, but holds the promise of reducing the vulnerability of low-income households to negative shocks and the consequences of these on income and consumption. The concept of insurance is not completely new for low-income households in developing countries, as, due to the low coverage of public social security systems, low-income people traditionally rely on informal risk management and self-insurance strategies in order to protect against the occurrence of risky events (Townsend 1995, Siegel et al. 2001). If the shocks are idiosyncratic and characterized of low frequency, such as the death of a household member, the risk may be insurable, but if the negative shocks are covariate, as in the case of a drought or a flood, the risk is harder to insure or insurance may be limited (Morduch 1995, Townsend 1995, Dercon 2002). Furthermore, the poor use a wide variety of risk coping mechanisms from both informal, such as the exchange of loans between members of an extended family or a community in emergency cases, and formal sources, and base their choice of risk coping behaviour and their participation in any financial service schemes on the information and advice

\(^1\) The most common definition of microinsurance is the “protection of low-income people against specific perils in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved” (Churchill 2006: 12)

The understanding that the poor cannot afford insurance premiums as well as being uninsurable against the wide variety of risks they face, dramatically changed after the emergence of microinsurance, so that microinsurance has the potential to be an important instrument to any poverty reduction strategy (Siegel et al. 2001, Churchill 2006). A high demand for microinsurance, especially for health and life insurance products, is actively promoted because of a lack of efficient risk coping mechanisms in developing countries, but the uptake of microinsurance is still low (Cohen et al. 2005, McCord et al. 2006, Roth et al. 2007). One reason for the limited provision of microinsurance is from the supply-side perspective, namely that providing microinsurance has all the incentive and information problems of providing insurance or credit, i.e. moral hazard and adverse selection (Cawley and Phillipson 1999, Winter 2000, Abbring et al. 2003), high transaction costs and difficult contract enforcement (Armendáriz and Morduch 2010). Furthermore, due to the limited size of the resource pool of vulnerable households, existing microinsurance programmes can cover only a limited range of risks (Siegel et al. 2001). In addition, there is so far no approach in the microinsurance industry that offers a breakthrough comparable to that which group-lending innovation has been for the compensation of the limited liability of the poor in the microcredit provision (Morduch 2006).

On the demand side, in academic and policy makers’ circles, the lack of information and understanding of insurance concepts and all their terms and conditions, combined with mistrust in the providing institutions, are generally viewed as significant barriers to higher microinsurance uptake among low-income households in developing countries (Schneider 2005, Chankova et al. 2008, Ginè et al. 2008, Cole et al. 2009). Hence, low-income households still cover the costs of shocks with a wide range of risk management strategies, including financial services from different sources, be these formal, informal or self-insurance. However, microinsurance is a promising approach for social protection and the reduction of the vulnerability of the poor to the consequences of negative shocks, and can thus play a key role as a possible component of an integrated social risk management strategy for the developing world (Siegel et al. 2001).


In the academic debate on the use of microfinancial services, there is still an urgent need for more empirical analysis of the determinants of the participation in formal microinsurance schemes, which is the underlying motivation of this work. The main objective is to provide new insights into the analysis of a household’s microfinancial service participation patterns that might contribute to a better understanding of whether microfinancial services function as efficient risk management strategies for low-income households in developing countries. Consequently, the thesis investigates the nature of the idiosyncratic or covariate shocks low-income households are faced by, which informal and formal risk management strategies are used to cover the consequences of such risky events, what role microinsurance can play as a risk coping mechanism, whether a substantial contribution to poverty reduction can be expected from it, and, finally, why several low-income households contract microinsurance, but others not, and why not. By doing so, the research allows us to examine whether the participation in microinsurance schemes is determined by supply or demand side factors.

On the demand side, a special emphasis will be put on the analysis of the demographic and socioeconomic determinants of the households participating in microinsurance schemes, thus indicating what kind of households participate in such schemes. At the same time, the thesis aims to identify supply-side factors influencing microinsurance provision and in particular why the uptake of
microinsurance is still low; for instance, information asymmetries are widely seen as potential explanations for barriers to insurance participation in the literature (Akerlof 1970, Rothschild and Stiglitz 1976, Browne and Doerpinghaus 1993, Cawley and Phillipson 1999, Winter 2000, Abbring et al. 2003). In this way, the work also sheds more light on the underlying open issues and questions in the empirical analysis of microfinancial services on the interdependencies between the participation in different microfinancial service schemes, a household’s financial capability level, and its vulnerability (Siegel et al. 2001, Matul 2009).

The four essays which comprise the thesis, and which will be introduced below in more detail, are concerned with the empirical analysis of households’ participation in microfinancial services, different types of microinsurance, namely micro life and health insurance, and on the sequential steps of a household’s participation decision. Surprisingly, so far no major research has been carried out using household survey data on the participation in micro life insurance in developing countries, although micro life insurance is the most widely provided microinsurance in the world (Roth et al. 2007). While there are some studies, using individual household data for both developed and developing countries, on the participation in formal life insurance (Lewis 1989, Truett and Truett 1990, Browne and Kim 1993, Outreville 1996), all of these use earlier theoretical work on the demand for life insurance as a benchmark (Yaari 1965, Hakansson 1969, Fischer 1973, Lewis 1989). While Lewis (1989) was the first to extend the previous theoretical work including the preferences of the dependents and beneficiaries, i.e. bequest motives, this thesis is the first to use this model to concentrate on underlying motivations of the micro life insurance participation based on intra-household allocation decisions, such as bequest motives, in developing countries.

The thesis considers different countries in different developing regions, these being Ghana from sub-Saharan Africa and Sri Lanka from South Asia. A generalization of the results and the replicability for microinsurance participation patterns in other countries might also be given, as the countries differ in historical, cultural and political background, including in terms of social security systems. In addition, the microfinance sectors and especially the provision of microinsurance differ extensively between these countries. Due to the fact that the microinsurance sector in Sri Lanka is more diversified and developed in terms of availability, coverage and engagement in the market than in Ghana, it might be possible to derive replicable implications and determinants of participation for the better provision of microinsurance for microfinance sectors at different stages of development.
Furthermore, this thesis helps to contribute to the discussion on the influence of microfinance and in particular of microinsurance on poverty reduction and its implications for political promotion, including economic development policy and social protection. From the supply-side perspective, recommendations can be given for the better distribution and marketing of microfinancial services in order to understand whom to provide with these services and how to achieve a higher level of outreach of microfinance, including microinsurance. The thesis can provide new insights into a better understanding of the demand-driven determinants of the poor’s participation in microfinancial schemes, and thus give recommendations for how to make the poor more financially capable, such as the promotion of financial and/or insurance education, simple and easily understandable services, trustworthy marketing and distribution measures.

In this thesis both Essay 1, based on joint work with Lena Giesbert and Susan Steiner, and Essay 2, based on joint work with Thankom Arun, discuss the interdependencies between participation in different microfinancial services, as one major limitation of the previous academic papers is that they investigate participation in one type of microfinancial service, for instance microcredit, separately from the use of microsavings or microinsurance. In contrast to these earlier contributions, Essay 1 argues that a household’s decision to take up loans, savings products and insurance, offered informally or formally, are inter-related for various reasons, e.g. informational advantages or higher financial capability of users over non-users. Therefore, the forms of participation in microinsurance and other financial services are simultaneously estimated in a reduced-form multivariate probit model on household survey data from Ghana. Furthermore, Essay 1 is the first study estimating the determinants of the uptake of micro life insurance in a sub-Saharan African country to allow a detailed analysis of which households use micro life insurance and which not, and helps to explain why micro life insurance uptake is still low.

The results of Essay 1 present evidence that there is a mutually reinforcing relationship between the use of micro life insurance and the use of other formal financial services in Ghana. Furthermore, Essay 1 finds no evidence for a substitution or crowding out effect between the use of informal financial services and the uptake of micro life insurance. Essay 1 finds that risk averse households as well as households which consider themselves more exposed to risk are less likely to participate in a micro life insurance scheme, so that it is argued that households seem to consider the micro life insurance scheme under study to be risky in itself and not as a risk mitigation measure. There is also an indication of adverse selection and a life cycle effect for microinsurance participation in Ghana.
The second essay stresses that the microfinancial service participation of low-income households, i.e. the respective usage of no, one, two or all different types of microfinancial services, gives an indication of the diversification of a household’s financial behaviour, in terms of the importance of the risk management strategies in use. Therefore, Essay 2 assumes that low financial capability leads to a household’s limited ability to respond to risk, to its use of a less diversified range of microfinancial services and thus indicates the higher level of vulnerability of the household. To demonstrate this, the determinants for the three different types of microfinancial services are estimated by separate probit models for each financial service on household survey data from Sri Lanka, followed by an ordered probit model to determine the factors affecting a household’s decision to participate in no, only one, two or all three different types of microfinancial services. In this way, Essay 2 aims to derive insights as to whether a higher risk exposure in the past influences a household’s decision to diversify its microfinancial service participation. In contrast to earlier contributions in the literature (e.g. Giné et al. 2008) and Essay 1, Essay 2 finds that financial service uptake is not seen as an additional risk in Sri Lanka. Whether a household is more or less likely to use microfinancial services depends highly on the type of shock experienced, whereas the accessibility to one, two or three microfinancial services is determined by the experience of specific hazards, such as the death of a household member in the past. Better off households are still more likely to use microfinancial services than their poorer counterparts in Sri Lanka. In addition, there is evidence for a negative relationship between microfinancial service participation and the lack of a basic level of financial capability, as household heads with no or low educational attendance are negatively associated with a diversified participation in microfinancial services in Sri Lanka.

The third essay presents evidence, analogous to Essay 1 for Ghana, on the determinants of the participation in micro life insurance using probit and tobit models on household survey data from Sri Lanka, so that Essay 3 is the first study on micro life insurance participation in a South-Asian country. Essay 3 argues that micro life insurance participation is motivated – besides other socio-demographic and supply-driven determinants – by the policy holder’s desire to leave bequests. Therefore, Essay 3 is the first to evaluate the determinants of micro life insurance participation against the benchmark model of life insurance demand developed by Lewis (1989) and also takes into account whether the bequests are intended or strategic (Tomes 1982, Bernheim et al. 1985, Hurd 1987), which has so far only been analysed in a developed country context. This is of particular interest for the question as to whether and to what extent micro life insurance may contribute to the security of low-income households in the
case of the breadwinner’s death. By doing so, the work goes beyond the issue of micro life insurance ownership, by using additionally as a dependent variable the premium expenditures indicating the actual amount of insurance coverage purchased. There is evidence that micro life insurance participation correlates with measures of intended bequest motives for protection reasons in Sri Lanka. Furthermore, the estimations of determining factors of micro life insurance participation show both confirmation of and deviation from the Lewis’ model predictions in Essay 3, as the results indicate, for instance, that the religious inclination of the underlying sample is associated with participation in micro life insurance schemes.

None of the existing contributions in the literature, as the last paper of this dissertation, based on work with Thankom Arun, does, emphasize different sequential steps of the household’s microinsurance participation decision and the joint analysis of micro life, health and other forms of microinsurance participation using household survey data from Sri Lanka. Essay 4 argues that members of an MFI have better access to and are more likely to participate in microinsurance schemes due to unobservable characteristics of their MFI membership. Furthermore, we assume that the participation in one microinsurance type is reinforced by the availability of other types of insurance. Therefore, Essay 4 estimates what determines a household’s enrolment in an MFI, and to what extent is a household’s microinsurance participation conditional on its MFI enrolment, before finally employing multivariate probit models to estimate the determinants of a household’s decision to participate in different types of microinsurance, i.e. life, health, and any other type of insurance. The results of Essay 4 presents evidence that the participation in life and any other insurance or health and any other insurance are conflicting alternatives. A household’s experience of a family related shock is positively associated with participation in micro health insurance schemes. However, microinsurance has not yet succeeded in proportionately reaching the most vulnerable households in Sri Lanka. Furthermore, education and household size are strong determinants of a household’s MFI enrolment and microinsurance participation in Sri Lanka.

The Appendices following Essay 4 contain additional country specific information on the data sets and results of the respective empirical analyses. The Bibliography for all parts is also located at the end of the thesis.