Corporate Governance

Microinsurance performance - a systematic narrative literature review

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Abstract

Purpose – *This study aims to offer a literature review on microinsurance, focusing on its financial performance and social impact. The aim is to review current research in microinsurance performance. Over the past decade, microinsurance has aroused the interest of the scientific community. Scholars have monitored its development and have examined its impact on the poor's ability of breaking out of the poverty trap.*

Design/methodology/approach – *A systematic-narrative method was used to review the relevant literature. In total, 64 relevant articles on investigating the financial performance and the effects of microinsurance programs on the poor's well-being were reviewed, coded and followed by a narrative synthesis.*

Findings – *This review synthesizes current published data on microinsurance to provide practitioners and researchers with a better understanding of this important area. Microinsurance benefits the poor, as it reduces their vulnerability to poverty. Microinsurance has a twofold impact on an individual's ability to overcome poverty. First, it has a direct impact on access to healthcare services and, second, it has an indirect effect on an individual's economic status, by moderating risk vulnerability and improving income stability. Further research is necessary to reach concrete conclusions about the financial performance of microinsurance programs. Finally, the analysis of the literature revealed an absence of research regarding the impact of microinsurance on society and sustainable development.*

Research limitations/implications – *An understanding of the performance of microinsurance services is important. Therefore, the findings can be used by microinsurance practitioners to assess and improve their performance. Further, policy implications such as improvement of financial knowledge and social marketing via education polices to increase microinsurance awareness of its benefits are recommended.*

Originality/value – *This review provides a synthesis of the literature in microinsurance concerning its financial and social performance, and raises suggestions for future research.*

Keywords *Performance measurement, Asia, Africa, Sustainable Development, Risk Management*

Paper type *Literature review*

1. Introduction

Over the past decade, microinsurance, similar to microfinance and microcredit, which have been important tools in the arsenal of eradicating poverty and spurring growth, has aroused the interest of the scientific community. However, microinsurance appears to have been studied less than microfinance. Microinsurance is still evolving, drawing its own discrete course to microfinance in the bottom-of-the-pyramid (BoP) market. Microinsurance practitioners have implemented microinsurance programs, and although it is too early to draw concrete conclusions, we have some preliminary results about their effectiveness and their sustainability. In the meantime, scholars have monitored and examined its development and effect on improving the poor's well-being and reducing their vulnerability to poverty. Several qualitative and quantitative studies have been conducted over the past years. Measurements of microinsurance performance and its impact include several indicators. This study offers a literature review on microinsurance, focusing on its financial performance and social impact on the poor.

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Insurance facilitates growth through several channels and mechanisms, mainly through the financial channel and particularly via risk management. Until today, much of the attention has been paid to determining the linkages of finance to economic development through the financial and credit channels. Financial deepening leads to the rise of investments and subsequently to an increased level of employment and income. However, several scholars have recognized managing risk as an important path for mitigating poverty by reducing the poor's vulnerability through the risk-pooling (ex-ante) and shock-absorbing (ex-post) mechanisms.

In this study, we provide a thorough description of the ongoing research in microinsurance, and we lay the focus on Africa and Asia because these are the most commonly explored geographic areas in the literature. To the best of the authors' knowledge, there is no published systematic review focussing on the performance of microinsurance regarding its sustainability of programs and its impact on poor households. In this paper, our primary question is "what, how, where and for whom is microinsurance performance measured?" This important question has been researched by scholars in different domains and research settings, but it has not yet been examined systematically and synthesized in an overall outcome. The aim of the current paper is to report on a narrative literature review which was carried out on the state of affairs in microinsurance. Therefore, we do not intend so much to establish effect sizes of microinsurance performance in the financial and non-financial domain, but to establish the state of knowledge in the area by examining what is measured, where it is measured, how it is measured and for whom it is measured.

We conduct a literature review of scientific research articles, from 1990 to 2013, covering over two decades of research in the field. The results of the review show that the majority of studies report a positive impact of microinsurance regarding the financial and health situation of the poor, increasing their chances for growth. Participation in such a program has a positive effect in the utilization of healthcare, decreasing the probability of catastrophic expenditures. Furthermore, studies show that insurance membership has a positive effect on reducing vulnerability to poverty by risk reduction and income stabilization. Regarding the financial performance, we have contradictory findings on program sustainability. However, we should consider that under the limitations of examining the financial performance of such programs is the scarcity of data, and therefore, concrete conclusions cannot be formulated. Furthermore, we stress that the majority of the examined articles postulate the significant effects of microinsurance on improving access to healthcare services and reducing the poor's vulnerability to poverty.

We contribute to the relative literature in several ways: first, we aim to shed light on the existing literature of microinsurance, primarily in Sub-Saharan Africa (SSA) and Asia, at the same time depicting its potentials and portraying its vulnerabilities; second, we highlight the factors that shape its performance measurement process; third, we discuss the relevance of much of the current research.

The rest of this study is structured as follows: In Section 2, we give an extensive overview of microinsurance with regard to its scope and aims, its relation to economic development, its delivery channels and business models and services and its market perspective. In Section 3, we describe the measures of microinsurance performance and impact, and in Section 4, we describe the method of the systematic literature review used in this study. Next, in Section 5, we present our findings, with regard to our research question. Finally, in Section 6, we summarize our findings and provide our final thoughts.

2. Microinsurance overview

2.1 Microinsurance: definition, scope and aim

Microinsurance aims to alleviate poverty and foster development by reducing risk vulnerability to shock effects, smoothing income and consumption and by the adoption/initiation of greater investments. The microinsurance market though can be characterized as supply-driven, and it

offers a variety of different risk coverage products such as accident, disability, property, funeral, health and many others covering various types of life, non-life and health insurance.

In search of a definition of microinsurance, we find that it is closely related to insurance, but it is differentiated on two important aspects: first, microinsurance targets the low-income population and, second, it provides low-priced tailored products to the poor. We do not find, in the literature, a unique acceptable definition of microinsurance. We stand closer to Churchill's (2007) definition who states that 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". Additionally, Cohen *et al.* (2005) note that we should not perceive microinsurance just as downsized insurance and they further stated that microinsurance "is formal insurance tailored to a clientele with vastly different income and risk profiles than those of traditional insurance schemes". In general, the poverty trap can also be attributed to the poor's vulnerability to cope with unexpected shocks. Microinsurance mitigates this vulnerability by replacing the uncertainty of the future outcome with the obligation of making small, regular payments for receiving an important level of assurance in exchange. Nevertheless, microinsurance should not be seen as a panacea for reducing the vulnerability of the poor but only as a complementary tool of development and for coping with severe shocks.

A strand of literature examines how the poor deal with idiosyncratic and covariant risks (Dercon, 2004; Morduch, 1999; Townsend, 1995). They advocate that coping with an extrinsic shock with mechanisms other than insurance is effective only in the case where the shock is small in intensity for the individual. Deaton (1991) argues that only when the households are patient enough could they build up sufficient assets to cope with future risks. Brown and Churchill (1999) state that "as the size of loss increases relative to a household's expected future income, credit products become increasingly ineffective risk-management tools [. . .] insurance becomes a more effective method of risk management". A shock has both an immediate impact and a long-run effect on poor households. The direct impact can be dealt with by utilizing savings or credit options in an expensive and costly way, but the latter has a long-run effect that is more persistent; usually, higher assets are necessary to recover (e.g. a costly health operation that leaves disability, or the death of a household member's burial expenses and the missing income to the household). Furthermore, the saving mechanism is often perceived by the poor as a precautionary measure for hard times to moderate the future uncertainty, and to handle anticipated expenses such as health treatment or the death of a family member.

Microinsurance, utilizing a risk-pooling mechanism, provides a different approach to microloans and precautionary savings to handle uncertainty and insecurity. Although, in the case of extreme shocks, microinsurance provides greater risk coverage and compensations than other coping measures, it is often challenging for the poor to comprehend its inherent value. As such, the poor seem reluctant to give a small proportion of their income to pay a premium for having insurance coverage.

2.2 Microinsurance and economic development

We find, in studies by Schumpeter (1982) and Robinson (1979), the theoretical grounds for financial development and growth, while several empirical studies examine the existence of a relationship between financial deepening and economic development (King and Levine, 1993; Levine, 1997; Rajan and Zingales, 1998; Levine, 1999; Huang, 2005; Claessens, 2006). In general, the financial system facilitates growth by easing information and reducing transaction costs, and by improving the allocation of capital, risk management and financial exchanges. The branch of literature that deals with the relation of financial development and growth is vast. Financial deepening with an expanding financial intermediation contributes toward economic development. However, in the finance and growth literature, limited attention has been given to the non-bank financial intermediaries (Haiss and Sümegi, 2008). Studies have demonstrated that a higher uncertainty of the

future outcome is negatively associated with growth because households do not undertake initiatives investing in new technology or additional working capital that would lead to higher income levels and poverty reduction (Eswaran and Kotwal, 1985; Mosley and Krishnamurthy, 1995). Thus, insurance contributes to growth by decreasing the level of uncertainty and enhances economic activity by increasing the volume of investments.

Other empirical studies document a positive relationship between the development of the financial sector and insurance (Outreville, 1990, 1996; Ward and Zurbruegg, 2002; Li *et al.*, 2007). Arena (2008) finds evidence of a causal relationship between insurance market activity and economic growth[1]. Haiss and Sümegi (2008) investigate the role of the insurance sector in the finance–growth nexus, i.e. whether and how insurance influences economic growth. They identified risk transfer by reducing uncertainty and volatility, the investment channel and the saving substitution effect as the major factors of insurance's influence on economic growth. Azman-Saini and Smith (2011) find that insurance has a positive effect on growth by facilitating capital accumulation in developing countries. Outreville (2011) gives evidence of insurance's importance in growth in developing countries. Elango and Jones (2011) find that the growth rate, trade, interest and gross national income influence insurance density in emerging markets. Lee *et al.* (2013) find that there is a positive bi-causal relationship between the level of economic activity and life insurance markets in the long-run. In this sense, a high level of economic growth leads to a high insurance premium level and vice versa.

To date, research on the impact of microfinance and even more on microinsurance to economic development has received limited attention. Claessens (2006) argues that for access to financial services, such insurance is an important aspect of development, and more emphasis is being given to extending financial services to low-income households. Other scholars argue that financial constraints including the lack of insurance are responsible for the poor trapped in poverty (Dercon, 2004; Carter and Barrett, 2006). Sica and Testa (2009) explore the relation between microfinance and development. They stress the importance of implementing such policies. Belwal *et al.* (2012) posit that microfinance improves the economic situation of women entrepreneurs. Chandhok (2009) states that "through microinsurance, poverty can be eradicated, which leads to development in the country". In addition, London *et al.* (2010) refer to lack of insurance as one of the financial constraints that BoP farm producers face today. Hamid *et al.* (2011a) find a positive relationship between microinsurance and poverty reduction. Kovacevic and Pflug (2011) argue that insurance through risk coverage from catastrophic shocks reduces the poor's probability to fall in the poverty trap.

Another strand of the literature examines the effects of climate change and development (Mills, 2007; Heltberg *et al.*, 2009; Bauer and Scholz, 2010; Brown, 2011; Peterson, 2012; Lamond and Penning-Rowsell, 2014). Adaptation alternatives offered by microinsurance such as index insurance programs can reduce vulnerability to weather risk, leading to development. However, Kenjiro (2005) argues that poor people's economic situation is more fragile because of illness shocks rather than weather factors.

2.3 Microinsurance organizational schemes

Microinsurance has several distributional channels characterized as formal or informal. However, the effectiveness of each distributional channel should take into consideration how well it reaches the poor population. Microinsurance follows a variety of multitude ownership patterns much like microfinance, i.e. commercials, mutuals and NGOs. Mutual insurance providers labeled community-based health insurance (CBHI) or mutual health insurance to be usually organized at a voluntary level of community. Matul *et al.* (2010) observe a striking abundance of models delivering microinsurance in Africa:

- commercial and cooperative insurers;
- mutuals and community-based health schemes;

- microfinance institutions' (MFIs) self-carrying risk;
- health management organizations; and
- schemes linked to national social security.

McCord *et al.* (2013) find that, in Africa, commercial insurers have the greatest coverage except in health and agriculture products. The provision of health microinsurance is dominated by community-based schemes, mutuals and non-governmental organizations (NGOs) because of the low interest of commercial insurers to enter the market. Impressively, McCord *et al.* (2013) find that although community-based schemes make up 70 per cent of all microinsurance providers, only around 9 per cent of total lives or properties are covered. Similarly, Mukherjee *et al.* (2014) find that, in Asia, commercial insurers have the greatest outreach, followed by NGOs, community-based organizations (CBOs), mutuals and cooperatives. However, evidence shows that CBOs and mutuals are the most commonly used distribution channels in both regions. The Mutua (2008) identified several microinsurance providers such as financial cooperatives (SACCOs), microfinance institutions and various NGOs, particularly those involved in healthcare[2]. Each organizational structure has its strengths and weaknesses and follows different business models. The community-based schemes have the advantage of better knowledge of the market and potentially have large outreach but lack professionalism and managerial skills, and are vulnerable to common risk shocks. Cooperatives have a larger capacity for reinsurance arrangements and collaborations than mutual schemes, but have membership and regulation restrictions. Commercial providers strive to balance profitability and social impact and have usually made arrangements with reinsurance companies for providing know-how and risk coverage. However, they lack the potential to reach out to the poorest segment of the population, like the mutual schemes.

Loewe (2006) argues that the partner–agent model is a satisfactory solution when upgrading mutual programs or downscaling commercial programs is efficient. In the partner–agent model, two institutions are involved in the provision of insurance where the partner, typically an established insurer, is responsible for product manufacturing (Churchill, 2006). Churchill (2006) argues that the mutual schemes and the partnerships between insurance companies and MFIs have been overtaken by public private partnerships (PPP). Warner *et al.* (2007) propose partnerships and the cooperation of the formal financial services sector with local community networks to effectively provide risk coverage to poor households. Linnerooth-Bayer and Mechler (2007) argue that providing disaster safety nets through extended partnerships, including state authorities, private insurers, NGOs and donor institutions, can be reciprocally beneficial. Smith *et al.* (2011) posit that a number of new microinsurance distribution models have evolved that rely on the utilization of partnerships with organizations not traditionally in the insurance space. Several scholars contend that mutuals and CBOs have an increased ability to reach a large segment of the population (Aggarwal, 2011; Ahuja, 2004; Dror *et al.*, 2006, 2009, 2009; Llanto *et al.*, 2006).

Regarding the provision of microinsurance, MFIs are the prevailing distribution channels as they have already established working networks in this market (Coydon and Molitor, 2011). The use of MFIs as a distribution channel can be considered a successful example of microinsurance provision, delivering credit insurance products. MFIs have a unique position in providing microinsurance, as they have extensive networks and are already offering financial services to poor clients. In some cases, MFIs link with formal insurance companies and act as agents. MFIs also form joint ventures with formal insurers. Some MFIs team up with professional insurance providers, who have technical expertise in this area (Chandhok, 2009). However, microcredit should not be perceived only as a complementary tool to fight poverty. Giesbert *et al.* (2011) argue that microcredit does not have a substitution effect in taking up microinsurance and/or vice versa. Microinsurance needs the development of microfinance, as it facilitates the regular payments through the

saving mechanism. Other scholars posit that microinsurance can work toward the increase of social security in developing countries (Johnson and Williamson, 2006; Loewe, 2006).

2.4 Microinsurance market

Interest in the BoP market has been stimulated by the profound work of Prahalad (2004), while microinsurance has increasingly attracted the attention of the business community (Coydon and Molitor, 2011). The target population of microinsurance is the very poor with income below $2 per day. According to a World Bank (2012) survey, the poverty headcount ratio is $2 a day for SSA and Asia at 69.2 and 33.2 per cent, respectively, with a downward trend. Hammond *et al.* (2007) find that, globally, the BoP market makes up 72 per cent of the 5.6 billion people with a $5 trillion market potential.

Africa has a BoP market at $429 billion, consisting of 486 million people, while Asia has the largest market corresponding to 2.86 billion people with an income of $3.47 trillion (Hammond *et al.*, 2007). However, some criticism stems from these market potentials as they have been characterized as overestimated (Karnani, 2009). Microinsurance represents a potential market of 4 billion customers and $40 billion in premium income and only a small part of the market has been tapped, indicating a penetration rate up to 3 per cent (Swiss Re, 2010). According to Roth *et al.* (2007), Africa has had a low amount of microinsurance coverage with only 3.5 million people and the density of poor lives covered to total poor lives is only about 0.3 per cent, while Asia covers over 67.2 million people. Matul *et al.* (2010) estimate that the African low income market constitutes a potential market of approximately 700 million people and the value of the market for microinsurance in Africa is approximately $25 billion. They also found that 14.7 million lives were covered by microinsurance, accounting for around $257 million in received premiums. Overall, the low income households benefiting from insurance services have grown by over 200 per cent in three years to in excess of 44 million people (Honohan and Beck, 2007). Insurance has grown over the years in Africa and Asia. Figures 1 and 2 show that there has been a relatively sharp increase in insurance penetration and premium rates regarding life insurance and a moderate growth regarding non-life insurance. However, both growth rates are above the rates in developed countries. Another strand examines microinsurance from a supply perspective (McCord and Osinde, 2005; McCord, 2007; Meze-Hausken *et al.*, 2009).

Mukherjee *et al.* (2014) posit that almost 173 million insured individuals and properties were covered by microinsurance in Asia and Oceania. Figure 3 shows microinsurance coverage in Africa and Asia. According to McCord *et al.* (2013), Namibia and South Africa have had the highest microinsurance coverage ratio, around 56 per cent. South Africa has had more than 60 per cent of all lives and properties covered in Africa, presenting a mature market.

Figure 1 Premium per capita in emerging Asia and Africa for life insurance (LI) and non-life (NLI) insurance in dollars

Source: Swiss Re (2011)

Figure 2 Insurance penetration rates in emerging Asia and Africa for life insurance (LI) and non-life (NLI) insurance, as per cent of gross domestic product (GDP)

Source: Swiss Re (2011)

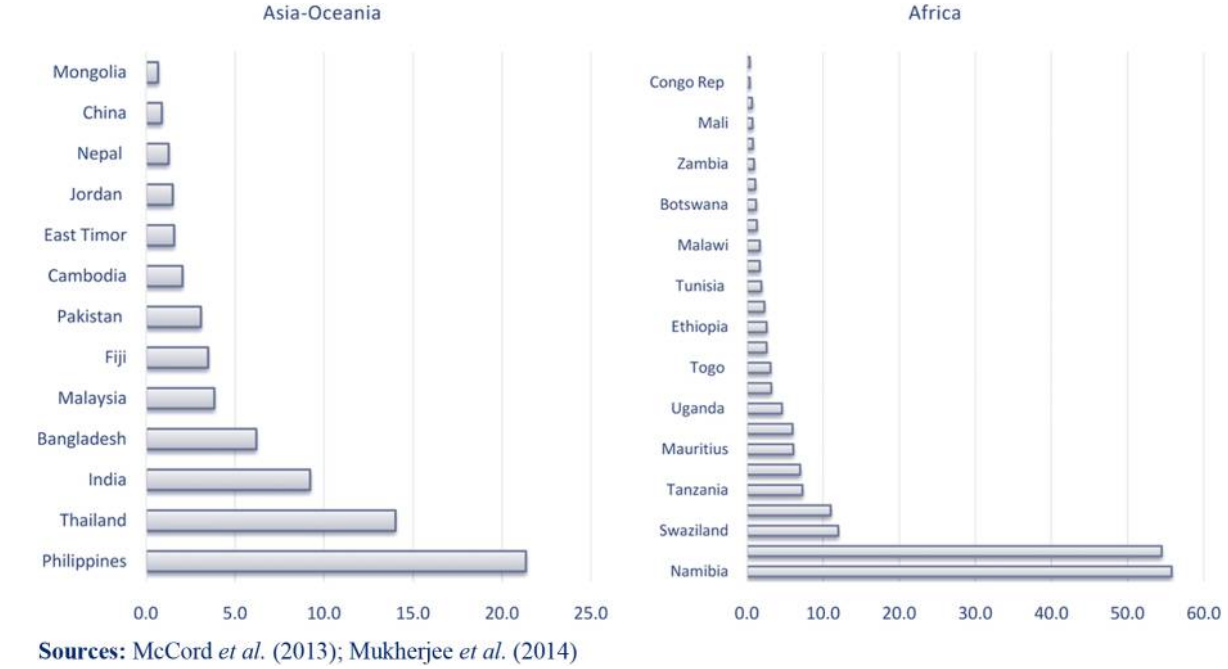
India has had around 64 per cent of all lives and properties covered in Asia-Oceania, while the Philippines has had the highest coverage ratio, followed by Thailand, India and Bangladesh (Mukherjee *et al.*, 2014).

Comparing different types of microinsurance coverage, life insurance products dominate the African microinsurance landscape (McCord *et al.*, 2013). In 2011, nearly 89 per cent of the African population lacked coverage by an insurance policy, indicating a particular need for development of the microinsurance sector (PlaNet Finance Group, 2011).

3. Measuring microinsurance performance

To date, there is limited evidence of microinsurance programs' sustainability because of their short-term existence. The assessment of the financial performance of the

Figure 3 Microinsurance coverage in percentages



Sources: McCord *et al.* (2013); Mukherjee *et al.* (2014)

microinsurance projects is based on index analysis. Several financial ratios and impact indicators are available for measuring microinsurance performance (Brown and Churchill, 1999). The most frequently used indicators to measure the development of microinsurance at a country level are insurance density and insurance penetration[3]. Wipf and Garand (2010), taking into consideration the differences of the microinsurance structure, suggest a primary set of ten performance indicators to assess the performance and sustainability of microinsurance programs. Social performance indicators introduced by Sandmark and Simanowitz (2010) and recently updated by Sandmark (2013) encompass a number of social and financial indicators to capture better the social impact of microinsurance[4]. They define social performance "as the effective design and delivery of products that create value for the poor and financially excluded people by allowing them to more effectively manage risk".

The impact of microinsurance programs can be categorized by the level of protection that insurance provides after the shock occurs (ex-post), e.g. cost reduction on health treatment spending in the case of serious illness of a household member, and before the shocks occur (ex-ante), e.g. through a more efficient risk management strategy which releases important capital for more beneficial investments (Brown and Churchill, 1999; Dercon, 2004). Studies on the impact of microinsurance programs make use of a variety of measures and indicators (Mosley, 2003). Microinsurance studies focus on its effect on reducing the poor's vulnerability to poverty by providing efficient risk-coping strategies. Other studies in the field focus on its effect on ameliorating the access of healthcare services for the poor population. These focus on the improvement utilization of healthcare services and health protection. A third strand of the literature measures the demand and supply of microinsurance programs. Scholars examine willingness to pay (Donfouet *et al.*, 2011), giving note to the affordability of such programs of the poorest of the poor, the uptakes, the renewals or the dropout ratios and the sustainability of such programs (Akter *et al.*, 2011).

4. Systematic narrative review

4.1 Method

We aim to investigate the current state of the literature and classify the studies into an applicable typology via a systematic narrative method (Green *et al.*, 2006). We choose to proceed with the systematic narrative method because it is suitable for finding answers to our main question. Furthermore, the type of the investigated literature that includes several types of methods does not permit involving other methods of analysis such as a statistical meta-analysis of the data.

Narrative synthesis can be used in different ways and can be used when the meta-analysis is not the appropriate method (Mays *et al.*, 2005). Popay *et al.* (2006) developed a narrative synthesis approach involving four specific elements or steps. In most cases, the final product of such reviews is the presentation of a narrative summary of findings (Rodgers *et al.*, 2009). The appropriateness of the narrative method to synthesize qualitative and quantitative elements in international development has been thoroughly discussed by Snilstveit *et al.* (2012). This method has been used to evaluate the literature of organizational performance and M&A performance (Meglio and Risberg, 2011), in clinical research literature (Dauri *et al.*, 2009) and other research areas (Best *et al.*, 2014).

4.2 The sample

We utilized systematic searching techniques to retrieve relevant research studies in microinsurance (McFadden *et al.*, 2012). The databases include Ebscohost, Science Direct, Springerlink, Wiley Online, Sage, Taylor and Francis and Jstor. An initial scope of the literature using the search terms "microinsurance and microfinance, development, sustainability, performance, impact and business models", resulted in over 800 database hits. More specifically, terms used for microinsurance were: "micro-insurance",

"microinsurance" and "micro insurance"; to narrow down the results, the following terms were also included additionally to microinsurance: "microfinance", "sustainability", "sustainable development", "performance" and "impact"

The sample spans from 1990 to 2014 and covers 24 years. To make the list accurate for our purposes, we included only peer-reviewed articles, using any type of research method. Duplicate papers and dissertations were excluded, as well as gray literature, as it yields little pertinent material for research purposes. Furthermore, papers were removed if they did not include a direct reference to the search terms. Thus, we dropped, from our sample, those articles which did not adhere to the above criteria, resulting in 308 potential citations. The purpose of this study is to categorize microinsurance studies which empirically explore the performance of microinsurance; therefore, we included empirical articles, using any type of research method. Studies were excluded if they were non-experimental, conceptual, discussion and review papers. We then read all the abstracts, checking their adherence to the selection criteria. This produced a sample of 108 articles for a full-text review. After reading the full papers, we dropped, from our sample, those articles discussing microinsurance performance without measuring or presenting any empirical findings. The final stage produced a final total of 64 original studies presenting empirical research (Figure 4). The method of analysis, unit of analysis, and other components of microinsurance were coded and identified (Section 4.3).

In Table I, we present the number of articles from each journal across the decades. The table shows that there is an uneven distribution of articles across the decades. There were no articles in our sample in the 1990s and in 2000, and rather a few in 2000-2005. We observe that most of the literature is present during the past decade, with a sharp increase in the past five years. The reason for this uneven distribution may be because of the novelty of microinsurance as a distinguished topic from microfinance.

Figure 4 Flow diagram of study selection process

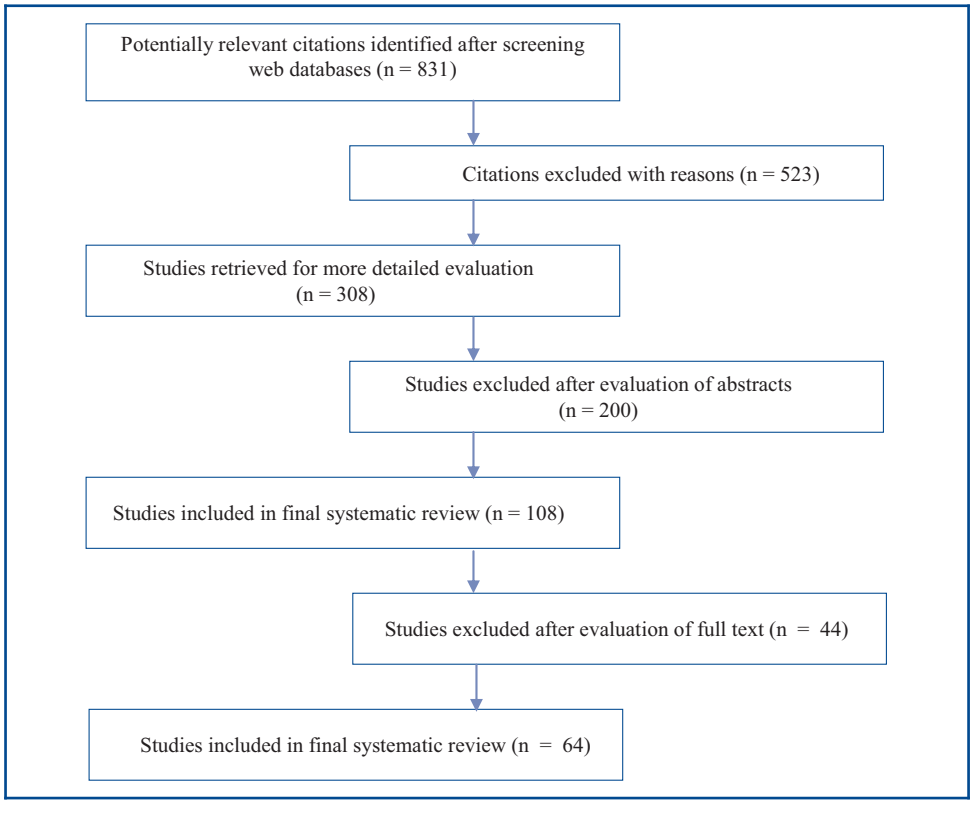


Table I Composition of sample

Year	1990-1999	2000-2004	2005-2009	2010-2014	Total
N	0	5	22	37	64

4.3 Coding of the literature

The literature was coded and analyzed using the software Atlas.ti 7. We give a brief description of the coding of the articles in the following categories:

- *Research setting:* The insurance sector and geographical identity are under scrutiny in terms of the insurance type and geographical areas. Microinsurance types are categorized as life, non-life and health insurance. Regarding the geographical area, we categorized research settings such as Latin America, Africa and Asia.
- *Research method:* The method used is classified as quantitative, qualitative or a mix of quantitative and qualitative methods that are generally labeled as mixed methods.
- *Indicators:* We categorize studies as relying on single or multiple indicators.
- *Mode of assessment:* Here, the measures are categorized as objective (based on some established methodical system such as internal accounting) or perceptual (judgments made by program managers or individuals, see Venkatraman and Ramanujam, 1987).
- *Unit of analysis:* We arrange articles according to the unit of analysis investigated as individuals (e.g. women, farmers and members), households, programs/institutions (e.g. health insurance program/community health insurance organizations) or mixed.
- *Microinsurance performance:* This record categorizes microinsurance on the basis of performance and impact as financial or social according to the classificatory scheme described below.

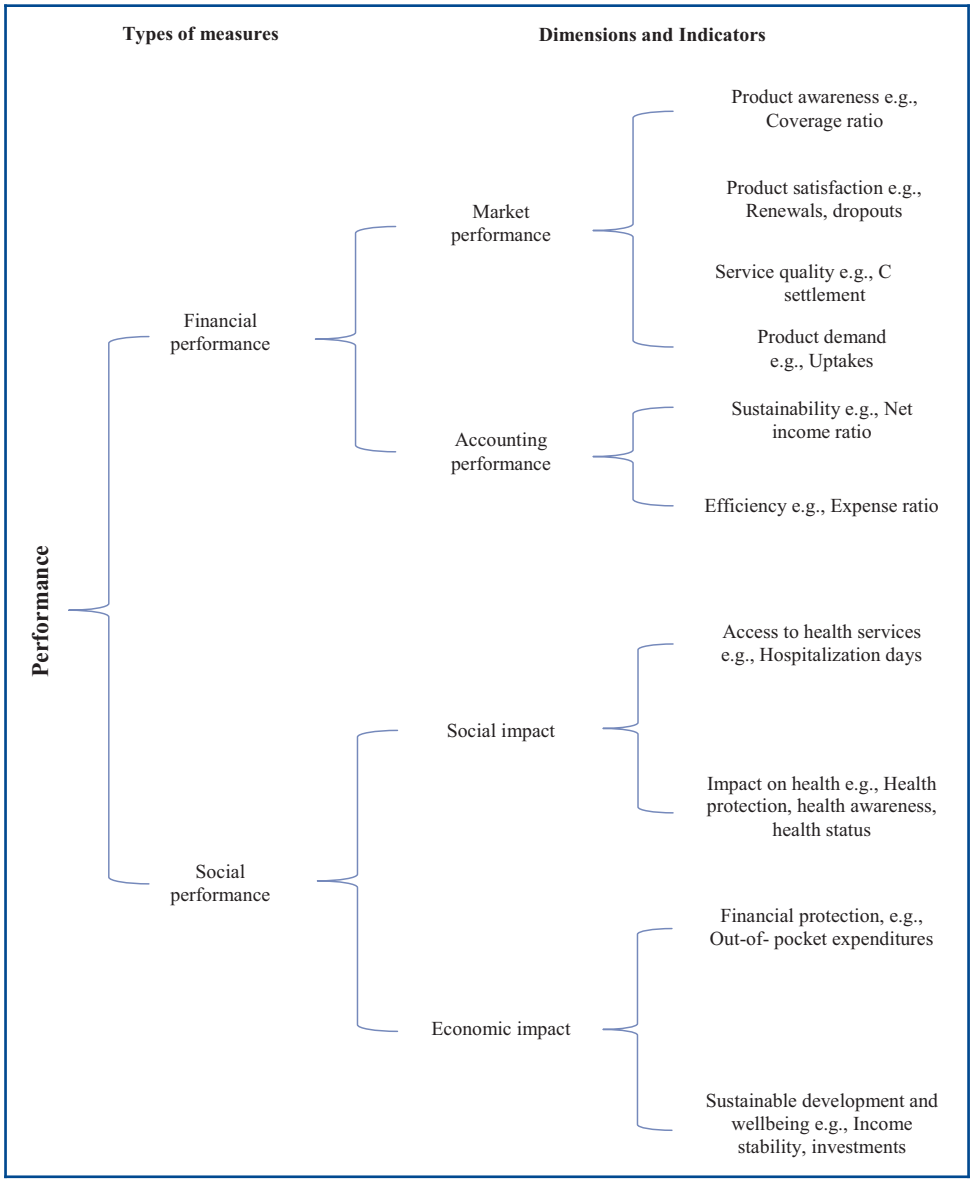
4.4 Classification

In Figure 5, we further categorize our data according to the classification scheme, which aims at clarifying the dimensions and indicators of performance used in the reviewed articles. Our scheme categorizes performance measures that we have found in the reviewed articles in terms of financial and social performance. Finally, we provide some examples of what indicators scholars rely upon for each measure.

The performance of microinsurance is felt throughout two domains of financial and social performance. Financial performance comprises market and accounting performance. Market performance measures reflect product awareness and satisfaction, service quality and product demand. These are generally measured by the coverage ratio, renewals, claims settlement and uptakes. Accounting performance measures the efficiency and the sustainability of the programs based on indices such as expense and net income ratios, respectively.

The social performance domain comprises social and economic impact. Social impact reflects two dimensions. The first dimension is the improvement of access to health services and utilization, which is generally measured by the number of visits to the hospital and hospitalization days. The second dimension is the impact on health, which is measured by health status. Economic impact reflects two dimensions: financial protection by reducing vulnerability and catastrophic impact, and economic development. Financial protection is often measured by out-of-pocket expenditures. Economic development and wellbeing is generally measured by stabilizing the income and probability of greater investments. Having explained how we coded our data and conducted the analysis, we will proceed with presenting our results.

Figure 5 Classificatory scheme



5. Results

We have conceptualized microinsurance performance as a single dimension concept that is composed of two domains and several dimensions. Scholars measure different things in different settings, and they use a broad array of indicators. Looking at the whole picture, there is quite a variance in the indicators, and there is no single construct of measuring microinsurance performance or impact. As such, performance is rarely or almost never defined, and more attention is given to measuring the outcome, which is a combination of a single or more indicators presented separately. We present our findings regarding what, how, where and for whom it is measured.

5.1 Where is microinsurance performance measured?

We coded the articles according to what types of microinsurance are provided and in what geographical area the studies took place to understand the research settings which are presented in Table II. The dominant type of microinsurance researched is health

Table II Research setting

Type of insurance	Geographic area: Asia	Africa	Latin America	Mixed region	Other	Total
Life	1	2	1			4
Non-Life	8	10	1		1	20
Health	16	18		1		35
Mixed field	2	1		2		5
Total	27	31	2	3	1	64

(56 per cent) followed by non-life insurance (30 per cent) and life insurance (8 per cent). We often meet studies regarding community health insurance as a field under investigation. Regarding non-life insurance, index insurance, involving weather and crop insurance, is often met at 63 per cent. Table II shows that life insurance is an under-investigated topic by scholars. This may be the result of data availability and accessibility constraints.

Africa is the most commonly occurring geographical area in our sample, at 31 times, followed by Asia with 27 times and Latin America with 2 times. We rarely met cross-sectional studies (Biener and Eling, 2011), possibly because of the difficulty of designing and implementing such a task. We can conclude that Africa and Asia are the two regions that most researchers focus on.

5.2 How is performance measured?

The research methodologies of studies that investigate the performance of microinsurance were varied. The quantitative method label includes statistical analyses employing secondary data and primary data. In Table III, we present the method used in the studies in relation to the type of data. The majority of the literature uses quantitative methods (75 per cent), and the rest follow a qualitative (7.8 per cent) or mixed method (12.5 per cent). Most of the articles use primary rather than secondary data, and most of the primary data are collected via surveys (41 per cent). An explanation of the high rate of primary data is that scholars use them to get a fresh insight and answer specific questions regarding the impact of microinsurance. Secondary data are less common in our review, as they are often not available and hardly accessible. In addition to the type of methods used, we also found field experiments, choice experiments for the elicitation of preferences for microinsurance programs and benefits, and the willingness to pay for such programs (nine studies), simulation methods (five studies) and randomized control trials (four studies). Other studies used qualitative methods and collected their data through interviews. Of the remaining articles, five use a qualitative method (e.g. Roth, 2001), while eight use mixed methods (Blanchard-Horan, 2007). The majority of studies (94 per cent) had gender-mixed samples. However, four studies examined only female participants. For a limited number of articles (three), we were not able to detect their method.

Next, we categorized the units of analysis in the reviewed articles as individuals, households, programs/institutions or mixed. Our findings are presented in Table IV. Households are the most common unit of analysis in the sample. In 30 articles, scholars

Table III List of studies by research method and data type

Research method	Data type: Primary	Secondary	Mixed	Total	(%)
Quantitative	34	14		48	75.00
Qualitative	2		3	5	7.81
Mixed	4	1	3	8	12.50
Unclear		3		3	4.69
Total	40	18	6	64	100.00
%	62.50	28.13	9.38	100.00	

Table IV Unit of analysis		
Individuals	18	28.13%
Mixed	6	9.38%
Households	31	48.44%
Programs or institutions	9	14.06%

measure performance from the perspective of households and in 18 from the perspective of individuals. We find nine studies using programs or institutions as a unit of analysis and seven studies combining performance and impact using mixed unit measures. When looking at the unit of analysis in performance measurement, we can conclude that scholars are mainly interested in measuring performance from the household perspective.

The majority of studies use multiple indicators as dependent variables without defining performance as a single construct (Table V). The measurement method that dominates is to measure performance on a single dimension using a single or multiple indicators. Thus, scholars measure performance in a unidimensional scale. In Table VI, we present the mode of assessments and indicators used to measure performance. There is a predominant use of objective measures in the articles (67 per cent). Perceptual measures are rarely used (19 per cent), and we find nine studies (14 per cent) using a mixed combination method.

5.3 Microinsurance performance and impact

We classified microinsurance performance measures, according to Figure 5, into financial and social performance measures. Our review shows that scholars most often measure performance within the social performance domain (53 per cent), followed by financial performance (44 per cent). Financial performance is dominated by studies about demand and preferences, and less about evaluating the sustainability of microinsurance programs (24 out of 28). The difficulty of accessing data and assessing programs might be attributed to this end. Most of the studies with regard to the social impact concern healthcare insurance. More specifically, in Table VII, social impact is mostly researched in the health sector, with 22 out of 34 studies, followed by 8 studies regarding non-life insurance. The situation is more balanced regarding financial performance which equally focuses on non-life and health insurance.

5.3.1 Financial performance. Microinsurance financial performance has been measured in only a handful of studies, mainly because of data availability constraints. The methods of

Table V Indicators		
Single indicators	20	31.25%
Multiple indicators	44	68.75%

Table VI Mode of assessment		
Perceptual	12	18.75%
Objective	43	67.19%
Both perceptual and objective	9	14.06%

Table VII Dependent variable

	Type of insurance					
Performance	*Life*	*Non-Life*	*Health*	*Mixed sector*	*Total*	*(%)*
Financial performance	2	12	12	2	28	43.75
Mixed financial and social performance			1	1	2	3.13
Social performance/impact	2	8	22	2	34	53.13
Total	4	20	35	5	64	100.00

data envelopment analysis (DEA) and the stochastic frontier analysis (SFA) have been utilized to measure insurance's efficiency and to assess the performance of insurance (Biener and Eling, 2011). Biener and Eling (2011) used a DEA and SFA approach to examine the efficiency of microinsurance programs in three geographic regions. They find that size and organizational structure are important factors in the efficiency of microinsurance programs. They imply that for-profit microinsurance organizations are more efficient than non-profit. They argue that large and for-profit microinsurance providers are more capable of efficiently allocating the available resources and producing a more cost-efficient insurance output, achieving better allocation and cost efficiency, respectively. They are less capable in the use of state-of-the-art technology achieving a technical efficiency, while it is the other way around for small and non-profit organizations. Furthermore, health microinsurance providers were found to be, on average, more technically efficient, but less allocative and cost-efficient.

Early microinsurance programs, because of limited data availability and not having trusty actuarial tables, used the trial-and-error method in setting the premiums. As a result, the sustainability of such programs was often at stake. The performance and the sustainability of microinsurance programs are the objectives of several studies (Cohen and Sebstad, 2005; McCord and Osinde, 2005). McCord and Osinde (2005) argue that microinsurance institutions are facing difficulties to attain sustainability and profitability goals. There are several factors that impede the financial performance of such programs. Microinsurance schemes struggle to deal with problems like fraud, adverse selection and moral hazard (Ito and Kono, 2010; McCord, 2007).

5.3.1.1 Market performance. Next, studies examine the demand side of microinsurance through eliciting preferences for benefits, or willingness to pay. To do so, they use choice experiments and surveys. These studies mostly concern non-life and health insurance. One strand of the literature examines microinsurance from a demand-driven perspective. The indicators usually used to depict the situation are enrollments, renewal and dropout rates. The enrollments, renewals and utilization of microinsurance are mainly related to income, wealth and health factors (Aggarwal, 2011; Giné *et al.*, 2008; Sinha *et al.*, 2007). Giné *et al.* (2008) find a relatively low uptake of a standalone rainfall insurance policy among farmers in rural India and attribute it to distrust, unfamiliarity with the product and high premium factors. Giesbert *et al.* (2011) find that the risk-averse households and households who consider themselves more exposed to risk than others are found to be less likely to participate in insurance in line with Giné *et al.* (2008) and contrast conventional expectations. This outcome may be attributed to the unfamiliarity of the product and its accompanied benefits. Ito and Kono (2010) relate the low uptakes with a risk-loving attitude toward losses. Uptakes are positively correlated with measures of bequest motives such as the number of children or dependents (Arun *et al.*, 2012). Factors that impede microinsurance demand can be attributed to the low understanding of its working conditions and its potential benefits due to illiteracy (McCord, 2001).

The low rate of claims and the difficulties in the claim process are responsible for the low renewals (Cohen and Sebstad, 2005; McCord, 2001). Sinha *et al.* (2007) find that members who exited from the scheme and did not renew were the poorer and less educated, they had weaker links with the promoting institution and they used the scheme less in the preceding year. Other reasons for the low rate of renewals and high dropouts should be attributed to factors such as the premium level, education level and the provider's network (Sinha *et al.*, 2007). Renewals are positively correlated with product awareness and knowledge (Savitha and Kiran, 2012). Jain *et al.* (2013) find that a minority of the poor perceived health insurance as necessary, either because they did not wish to be early adopters, because they had alternate sources of financial support, or because of concerns with the design of insurance coverage or the provider. Finally, other studies examine willingness to pay for insurance benefits using choice experiments (Brouwer and Akter, 2010; Donfouet *et al.*, 2011, 2013; Dror *et al.*, 2007a; Patt *et al.*, 2010).

5.3.2 Social performance. The evidence from the review shows that microinsurance has a twofold impact which is direct (health) and indirect (economic). Participation in microinsurance programs is related with improved access to healthcare services depicted in increased utilization of microinsurance, improvement of healthcare and health protection. We find 14 studies regarding utilization of health. Furthermore participation is related to financial protection and reducing the poor's vulnerability to poverty by reducing catastrophic expenditure (ten studies). In addition, health microinsurance programs increase the quality of health and well-being (McCord, 2001). In more detail, several studies indicate that the insured individuals had a higher visit rate to doctors than the non-insured (Desai *et al.*, 2011; Jütting, 2004; Msuya *et al.*, 2007; Schneider and Hanson, 2006). Smith and Sulzbach (2008) find that membership in a CBHI scheme is positively associated with the use of maternal health services. Dror *et al.* (2009) and Mahal *et al.* (2013) find greater use of hospitalization for the insured households and a substantially higher number of visits to the doctor.

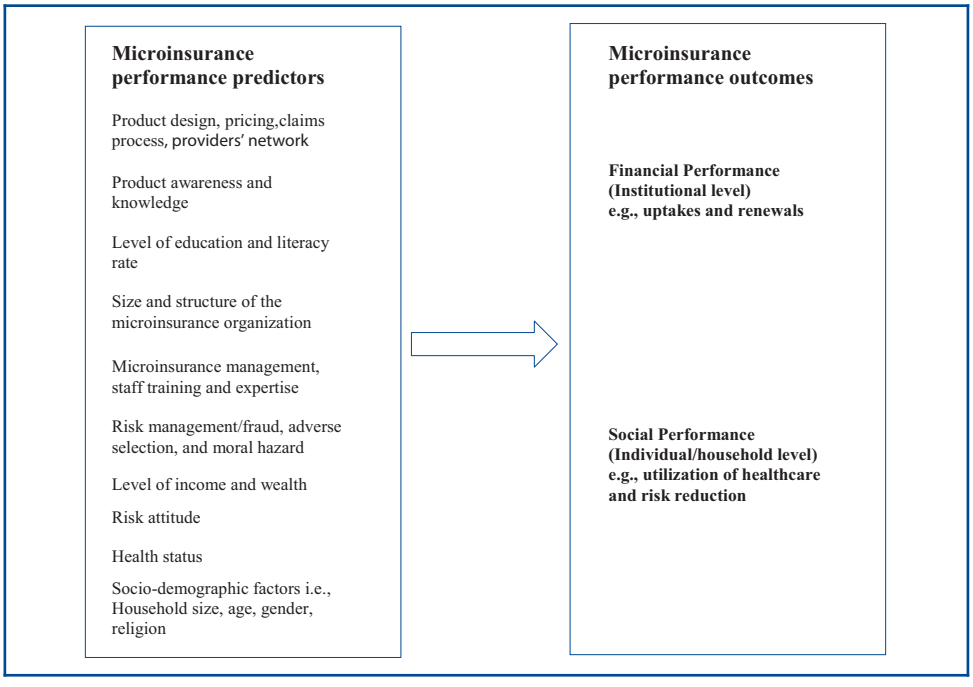
Microinsurance, besides improving access to healthcare, delivers a positive economic impact by reducing the probability of catastrophic expenditures. Several studies find a positive impact of microinsurance on out-of-pocket (OoP) expenditures (Asfaw and Jütting, 2007; Dekker and Wilms, 2010; Jütting, 2004; Mahal *et al.*, 2013; McCord, 2001; Msuya *et al.*, 2007). Another strand of the microinsurance literature examines the joint effect of the provision of health insurance to poor households with the selling of valuable assets to cover the expenses after a shock (Asfaw and Jütting, 2007; Dekker and Wilms, 2010; McCord, 2001; Msuya *et al.*, 2007). Aggarwal (2010) finds that members of health insurance had increased utilization of healthcare services, reduced OoP spending and better health and economic outcomes. Hamid *et al.* (2011a) find that membership in a microinsurance program is significant for health awareness and healthcare utilization. Saksena *et al.* (2011) find health insurance is associated with significantly increased utilization of health services, a higher degree of financial risk protection and a lower possibility of catastrophic expenditures.

Microinsurance has a positive impact on investment by inducing greater and profitable risks (Hill and Viceisza, 2012; Mosley, 2003). Hamid *et al.* (2011b) argue that the provision of health insurance has a positive impact in alleviating poverty through empowering the credit channel, reducing uncertainty and reducing the loss of working days. Furthermore, micro-health insurance has a positive association with income, income stability, assets and the probability to be above the poverty line (Hamid *et al.*, 2011b). Dekker and Wilms (2010) find that insurance is associated with a lower frequency of asset sales which is in line with Aggarwal (2010), but not with lower incidences of borrowing. Ragoubi *et al.* (2013) find that the expected net incomes are higher under the rainfall-index insurance scenario.

The existing studies focus mainly on health insurance and, to a lesser extent, on life insurance and non-life insurance. We find limited evidence of the impact of credit-life insurance. Credit microinsurance is a product offered by many MFIs, while its charges fluctuate significantly between them. Some concern, stemming from the purpose of this joint insurance-credit product, and whether it benefits more the banking institutions rather than the insured, exists. Giesbert *et al.* (2011) find evidence of mutually reinforcing relationships between insurance and the use of other formal financial services. However Karlan *et al.* (2011) find that providing a loan with lower risk had little impact on the uptake or not of an investment decision. In summation, the impact of microinsurance in poverty reduction has still not been investigated in depth for all types of insurance provision, and therefore, further research is needed toward this direction.

In Figure 6, we present the model of microinsurance performance which integrates and synthesize our key findings. Predictors of microinsurance performance fell into the categories of demand and supply. Examples of supply factors influencing microinsurance performance are the product design and price policy. On the other hand, instances of demand factors include risk attitude, knowledge and income. We classify outcomes of

Figure 6 Model of microinsurance performance



microinsurance as being institutional (macro level) regarding financial performance and individual/household (micro level) regarding social performance.

6. Discussion and conclusions

6.1 Discussion

This study aimed to offer a review of the microinsurance literature, giving, at the same time, answers to essential questions like: What, how, where and for whom is the performance of microinsurance measured? To the best of our knowledge, no systematic reviews of this contemporary area of research have previously been published. In the following lines, we summarize and underline the most important findings of this study, offering, at the same time, our conclusions.

The search in the databases for the term microinsurance resulted in a vast number of papers. However, when we applied our inclusion criteria, we find 64 relevant papers. The publications analyzed in this systematic review were empirical. Regarding the research setting, we found that most of the studies focus on health microinsurance and less on other types of insurance such as life and non-life insurance. The number of reviewed studies was almost balanced between Africa and Asia. With respect to the research method used in the studies, 48 papers adopted a quantitative approach, 5 a qualitative approach, with 8 reporting both quantitative and qualitative data. The majority of the studies examined households as a unit of analysis. This may be attributed to the large number of studies of surveys. The majority of the literature exploits primary data as their data source, while a few studies, focusing mostly on performance, use secondary data. Venkatraman and Ramanujam (1987) stress that primary data are replicable but not always accurate. Regarding the mode of assessment, categorized as objective or perceptual, the majority of studies used objective measures. While there is no single conceptualization of performance or impact, the majority of studies examine a single dimension and operationalize performance using single indicators separately (e.g. utilization of healthcare and enrollment).

Our narrative synthesis identified two main domains of microinsurance performance, characterized as financial and social performance. Scholars use indicators such as loss ratio, and claim ratio, to assess the accounting performance of microinsurance. Other indicators such as uptakes, renewals and dropouts are used to estimate the market performance of such programs. Regarding the accounting performance, our findings revealed that the financial assessment of microinsurance programs is limited mostly because of lapses in secondary data. From current research, we are not able to formulate a concrete position about the sustainability of such programs. Further research is necessary to reach convincing conclusions.

Through the analysis of the literature, we were able to identify several factors that have a negative impact on microinsurance demand and therefore affect microinsurance performance. The first and most important factor impeding the sustainability of microinsurance is the lack of sufficient management expertise which will result in a sustainable business model and a better formulated pricing policy. Other influential factors from the demand side are the level of knowledge, trust and income level or wealth. Supply factors hindering microinsurance's further development, increasing the costs and prohibiting it from reaching sustainable levels, are moral hazards, adverse selection and fraud problems.

Regarding microinsurance's social performance, we identified a positive direct and indirect impact on households' well-being allocated to health and economic dimensions, respectively. Microinsurance delivers a direct, positive impact on healthcare, improving health awareness and status. Furthermore, it delivers an indirect economic impact, contributing to risk reduction of catastrophic expenditures, stabilizing income and releasing valuable assets for investments. Scholars use several indicators to capture the implications of microinsurance on improving access to healthcare services and economic development. Utilization of health and out-of-pocket expenditures were the most frequent indicators of the social performance. In summation, the reviewed literature stresses the contribution of microinsurance on improving access to healthcare and strengthening the economic stability of the poor.

We would like to stress that although scholars adopt a variety of measures and methods, often the underlying theory is not explicitly mentioned. Scholars refer to theories regarding risk management (Dworkin, 2002; Shiller, 2009). We find a variety of theories regarding the demand and the utility gained from microinsurance varying from utility theory, (Lancaster, 1966), demand (Clarke, 2011), prospect theory (Kahneman and Tversky, 1979) and adverse selection models (Rothschild and Stiglitz, 1976). Severe illnesses have an impact on economic development (Gallup and Sachs, 2001). But only a limited number of studies refer to the relationship between insurance and growth using the endogenous growth model and the assertion that good health increases productivity and growth. The relationship of microinsurance and growth is still unexplored.

In addition, not all studies explicitly state hypotheses and even convincingly relate the hypotheses to the theory. We suggest that a better link between the underlying theory and the empirically tested hypotheses is necessary. Furthermore, much attention is paid to the sampling method which is often a random sampling rather than based on a time scale. The majority of the data stem from surveys that cover a limited time perspective, and not from longitudinal studies (Chantarat *et al.*, 2013). We propose that scholars should focus more on the time scale of their research setting, describing carefully their data collection process for the surveys and if possible to expand the time frame for several years.

6.2 Limitations

The scope of the review may have been limited, in that it is possible that our search protocol would have overlooked some relevant studies. A total of 12 papers were excluded from the review because their full text was either not available at all or not available in English. Furthermore, although gray literature may contribute an important insight to the field, we

decided to exclude it and include only peer-reviewed empirical articles to strengthen our conclusions.

Another important limitation is that only a few of the studies considered in this review used qualitative methods. This might have affected the results because qualitative studies usually produce results in narrative form, which can provide a deeper understanding of the phenomenon studied compared with studies that focus exclusively on quantitative analysis.

6.3 Conclusion

Microinsurance targets the poor population and aims to reduce their vulnerability to poverty via risk management strategies. This review synthesizes current published data on microinsurance to provide practitioners and researchers with a better understanding of this important area. However, the literature is focused on individuals' and institutions' performance and barely on its contribution to society and growth. Thus, it has revealed an absence of robust causal research regarding the impact of microinsurance on economic development. As such, we warrant further investigation in this area.

Anecdotal evidence supports the view that microinsurance seeks to reach sustainable levels. An understanding of the financial performance of microinsurance services is important not only for commercial providers but also for mutuals and NGOs, as the long-term success of these programs is evaluated not only from their social impact but also from their sustainability. Our findings can be used by microinsurance practitioners to help them assess and improve the programs' sustainability. This can be achieved by improving factors such as management capacity, properly designed business models, products and pricing policies (McCord and Osinde, 2005). We suggest carefully designed premium policies that will ensure not only the sustainability of the programs but also achieve a greater impact at the same time. Furthermore, we recommend policies that will target to increase product awareness such as financial education and social marketing. Several scholars stress the need for financial education (Arun *et al.*, 2012; Buor, 2005; Dror *et al.*, 2007a). Gaurav *et al.* (2011) find that financial education has a positive and significant effect on insurance adoption. Furthermore, Jain *et al.* (2013) argue that insurance penetration of community health insurance programs requires education of the consumer base, careful attention to premium rate setting and a deeper understanding of social networks that may act as financial substitutes for health insurance. Furthermore, social marketing is another useful tool to promote the benefits of microinsurance coverage (Donfouet *et al.*, 2011; McCord and Rivers, 2007). Finally, different forms of partnership between the public and private sectors can improve the applicability and sustainability of microinsurance. PPP can be utilized to strengthen social security. Commercial insurance schemes can benefit from partnerships with mutual schemes, taking advantage of their high level of social capital.

Besides financial performance, measuring the impact of microinsurance is necessary for practitioners to assess the performance of their programs. Further research on developing new impact measures is necessary, as the old one focuses exclusively on utilization of health insurance and out-of-pocket expenditures. Studies focusing on measuring the inclusiveness of the poorest segments of the population are welcome. In general, the reviewed papers did not focus on life insurance programs as much as on health and non-life insurance. Further research would therefore do well to investigate the impact of life insurance on the poor's well-being. In addition, we stress that most of the literature focus on the implication of microinsurance at an individual or household level, ignoring its impact on development and society. Research is focused mostly on the individual impact of health microinsurance programs and, to a lesser extent, on the contribution of microinsurance programs on growth. Empirical evidence supports the existence of an important relationship between insurance and growth in developing countries (Arena, 2008; Chen *et al.*, 2011; Haiss and Sümegi, 2008). However, despite the profound interest in investigating the relationship between microinsurance and growth, no empirical study has,

so far, provided comprehensive evidence. Future research may wish to explore this area in more depth, as well as to consider the differing impact of microinsurance in solving social issues.

Finally, we suggest that microinsurance should be perceived as a complementary tool to/of microfinance that facilitates risk management and smoothens the income and consumption balance of the poor over time (Giesbert *et al.*, 2011). In general, and in line with Reinhard (2012), it is important to design policy measures targeted to moderate risk and its consequences, essentially through microinsurance mechanisms which aim to reduce vulnerability to poverty and spur on growth. Microinsurance could help in the direction of improving social security in developing countries, mainly via PPPs.

Notes

1. For a comprehensive work of references examining the relationship between growth and insurance, one may look at the extensive literature reviews of Outreville (2011) and Haiss and Sumegi (2008).
2. Kenya, Uganda, Tanzania and Rwanda have a total of 6,945 SACCOs and 373 MFIs.
3. Insurance density indicates the average annual per capita premium within a country and it indicates how much each inhabitant of the country spends, on average, on insurance but currency fluctuations affect comparisons. Insurance penetration is the ratio of direct premiums written to gross domestic product (GDP).
4. See Appendix for details about the financial and social ratios of microinsurance.

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Appendix

Table AI Measures of microinsurance performance

Social performance	*Financial performance*
Incurred claims ratio[a]	Incurred expense ratio
Renewal ratio[a]	Incurred claims ratio
Promptness of claims ratio[a]	Net income ratio
Claims rejection ratio[a]	Renewal ratio
Complaints ratio	Coverage ratio
Coverage ratio[a]	Growth ratio
Percentage of insured below the poverty line	Promptness of claims ratio
Percentage of female insured	Claims rejection ratio
Percentage of insured above retirement age	Solvency ratio
Social investment ratio	Liquidity ratio

Note: [a]Denotes indicators measuring both social and financial performance
Sources: Sandmark (2013) and Wipf and Garand (2010)

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