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**REGULATION IN MICROINSURANCE MARKETS: PRINCIPLES,
PRACTICE, AND DIRECTIONS FOR FUTURE DEVELOPMENT**

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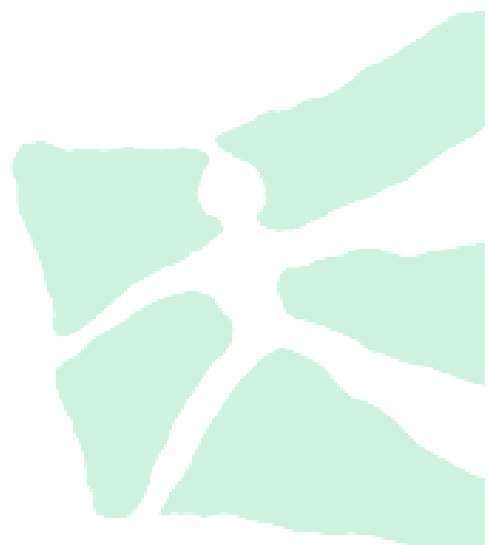
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WORKING PAPERS ON RISK MANAGEMENT AND INSURANCE No. 127

EDITED BY HATO SCHMEISER

CHAIR FOR RISK MANAGEMENT AND INSURANCE

JANUARY 2013



Regulation in Microinsurance Markets: Principles, Practice, and Directions for Future Development

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Abstract

Regulation of any market can either promote or impede its development, thus affecting social welfare. In this paper, we are concerned with the impact of regulation in microinsurance markets. We evaluate existing and potential regulatory mechanisms with regard to its underlying economic rationale, and offer recommendations intended to enhance support and minimize barriers for microinsurance market development. Specifically, we recommend avoiding incentives for regulatory arbitrage; responding to the characteristics of the microinsurance market, including licensing, capital, reinsurance, and distribution systems; enhancing the market through financial literacy initiatives; and providing support in the form of data collection and management training.

Keywords: Developing countries, microinsurance, regulation

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1 INTRODUCTION

The global microinsurance industry has grown tremendously over the past few years. The estimated number of policies sold more than tripled between 2009 and 2012, increasing from 135 million to 500 million (see ILO, 2012). Yet, estimates of the underserved market run as high as 4 billion¹ people at the “base of the pyramid” (see World Resources Institute, 2007). A variety of initiatives and organizations have been created to expand insurance penetration in low-income populations; and while these efforts have shown some success, there is still much room for improvement. Among the relevant areas to consider is regulation, which is viewed as having both positive and negative influences on the market. Some countries have passed specific regulation that applies solely to the microinsurance market, and others are considering this option. Furthermore, policymakers have raised the possibility of involving insurance regulators in the promotion of coverage for low-income populations, a role that could go beyond the traditional pricing, solvency, and market conduct functions. Examples include activities to assist insurers with data collection and employee training, as well as initiatives to improve financial literacy and risk management.

We seek to contribute to the discussion by (1) reviewing existing evidence of insurance regulation’s successes and failures in conventional markets, (2) applying those lessons to the microinsurance environment, and (3) identifying situations when regulation may be able to improve microinsurance market conditions, as well as those where it may have deleterious effects. We also discuss several existing microinsurance regulatory schemes to illustrate the current practice.

A successful microinsurance regulatory scheme will promote market development and enhance social welfare. Based on this fundamental idea, we formulate specific recommendations as enumerated in Table 1 and presented in the following sections. Our intention is to support the successful design of future microinsurance regulations.²

Table 1. *Recommendations for Microinsurance Regulation*

Recommendation	Examples
1. Reduce market entry barriers	<ul style="list-style-type: none"> ▪ Reconsider licensing requirements, particularly in light of innovative uses of technology and partnerships for product distribution ▪ Employ risk-based capital requirements ▪ Define microinsurance in a way that minimizes incentives for regulatory arbitrage ▪ Recognize the need for higher returns on lower-priced and often riskier products
2. Encourage market demand	<ul style="list-style-type: none"> ▪ Provide and support comprehensive risk management educational initiatives, including insurance literacy ▪ Encourage and make available effective risk mitigation strategies ▪ Enhance underlying services, such as health care ▪ Enforce regulations and demonstrate intolerance for corruption and fraud
3. Encourage market efficiency	<ul style="list-style-type: none"> ▪ Offer data and management support ▪ Provide training to agents, actuaries, underwriters, and insurance managers ▪ Allow and encourage involvement of international reinsurers and alternative risk transfer mechanisms

The remainder of this paper is structured as follows. In Section 2 we review the general rationale for insurance regulation, develop criteria for successful insurance regulation based on economic theory, and review the literature regarding microinsurance regulation. In Section 3 we present characteristics of the microinsurance market that have direct implications for regulation. Among these are product and market conditions distinct from the conventional market; the acute need for administrative efficiency because of the low premium value per policy; the need for improved financial literacy as well as underlying services covered by insurance; and the role of informal support mechanisms. We discuss and describe current specific microinsurance regulatory schemes in Section 4, and conclude in Section 5.

2 RATIONALE FOR INSURANCE REGULATION

(a) General

Insurance regulation has been with us nearly as long as has the formal insurance market, dating back at least to the 1575 establishment of the Office of Assurances in Great Britain to “coordinate and begin to control the writing of insurance” (Daykin & Cresswell, 2001). While regulatory efforts develop and change over time and across jurisdictions, regulation in the insurance sector generally falls into three categories: pricing, solvency, and market, the latter including product licensing and marketing, claims handling, market access,

and underwriting. As seems true for any regulated industry, debate over the appropriateness of governmental requirements is extensive and varied. Among economists, general agreement exists that the most socially beneficial industry regulations are those that assist in encouraging competitive markets. Such markets will not address issues associated with unequal wealth and income distribution or other societal concerns; yet the belief is that by encouraging competitive markets, private industry can perform its best for society. Other societal concerns can and should be addressed through non-private mechanisms, such as by NGOs and governmental programs, which are transparent and overt, limiting market distortions.

Within the insurance context, research suggests that the market demonstrates the key attributes of a competitive market, with many buyers and sellers, and reasonably open entry and exit; that is, concern over monopoly power is unwarranted. Joskow's (1973) seminal work set the foundation for such consideration within the insurance markets, and generally has been supported over the years (see Klein, 2012 for a discussion). Within the academic literature on insurance regulation, most authors conclude that regulation is most appropriate when market failures exist, and these most often are found in situations involving asymmetric information (see Klein, 2012).

Market failures in insurance tend to arise due to greater levels of information and power held by insurance carriers relative to consumers. These situations are most common in the personal-insurance lines of business, which is where microinsurance is focused. Insurers in particular have greater levels of information and power regarding the riskiness of their portfolio, leading regulators to focus on solvency concerns. Other concerns arise out of the insurer's control over contract wording and enforcement, which the consumer may not have the capability to understand or refute, directing attention to sales and claims adjusting practices.

Regulatory intervention is considered socially beneficial when the government holds superior capabilities to consumers in information acquisition and use. In the insurance sector,

these capabilities tend to exist when individual private monitoring is ineffective and/or excessively costly in comparison with the economies of scale and enforcement powers held by regulators (see Cummins, 1988). Under such conditions, government intervention can enhance market competition and thereby increase social welfare (see Klein, 2012; Skipper & Klein, 2000).

Before continuing, it is important to differentiate between market conditions leading to actual market failure and conditions resulting in undesirable market outcomes. The former offer a rationale for government intervention; the latter do not. Lack of affordable insurance coverage due to high risk may be undesirable from a public policy perspective, but typically is not improved by governmental intervention.³ Other efforts to mitigate risks and/or enhance individual resources are expected to be more effective in addressing these sorts of undesirable market conditions than would insurance regulatory interventions.

In an effort to define effective schemes, Skipper and Klein (2000) provide four criteria that should be met by insurance regulation if it is to “promote the twin goals of having a competitive *and* solvent insurance market.” These criteria, and sub-parts for each, are shown in Table 2.

We read these criteria as focusing on a few key goals: (1) encouraging market competition because the consumer is best served by competition rather than by regulation; (2) regulating only where market failures exist, which usually occur in respect to solvency; (3) applying regulations equitably to all insurers (specifically to locally and foreign domiciled insurers in like manner); and (4) assuring that regulatory rules and purposes are communicated in a way that is transparent and understood. These goals are consistent with the literature.

Table 2. *Skipper and Klein (2000) Criteria for Successful Insurance Regulation*

Criteria	Sub-criteria
1. Regulation should be adequate	<ul style="list-style-type: none"> ▪ Governments should enact and enforce laws that provide an effective framework for competitive insurance markets ▪ Governments should enact and enforce laws that establish reasonable solvency standards and regulation as the primary means of protecting the public ▪ As part of reasonable solvency regulation, governments should establish, make public, and enforce appropriate and consistent rules and procedures for identifying and dealing with financially troubled insurers ▪ Governments should establish an insurance regulatory agency that operates in the national interest and has sufficient resources to efficiently, effectively, and impartially enforce the nation's insurance laws and regulations ▪ Governments should develop and implement pro-competitive insurance regulation in a way and at a pace that ensures adequate protection of the public but that proceeds without undue delay and is subject to a reasonable implementation timetable
2. Regulation should be impartial	<ul style="list-style-type: none"> ▪ Governments should ensure that regulation and enforcement are applied with consistency and impartiality between competitors, irrespective of the nationality
3. Regulation should be minimally intrusive	<ul style="list-style-type: none"> ▪ Insurance regulation should be limited to that which is (1) justified as providing meaningful protection; and (2) minimally intrusive to accomplish its purpose ▪ Subject only to that regulatory oversight essential to protect the public, governments should allow the market to determine: (1) what financial services products should be developed and sold; (2) the methods by which they are to be sold; and (3) the prices at which they will be sold ▪ Governments should ensure that insurance customers have access to information sufficient to enable them to make informed, independent judgments as to (1) an insurer's financial condition; and (2) the benefits and value of its products
4. The regulatory process should be transparent	<ul style="list-style-type: none"> ▪ Governments should make existing insurance laws and regulations easily available to the public, including to consumers and businesses and to insurers and other financial services providers ▪ In crafting proposed insurance laws and regulations, governments should: (1) make such proposals easily available to the public, including to consumers and businesses and to insurers and other financial service providers; (2) invite comment on the proposals; (3) allow sufficient time for interested parties to provide comments; (4) provide justification for decisions to accept and reject comments; and (5) establish and communicate a fair process by which decisions considered arbitrary or unjust can be challenged

(b) Microinsurance

Microinsurance can be defined as “a financial arrangement designed to protect low-income people against specific perils in exchange for regular premium payments proportionate to the likelihood and cost of risk involved” (Churchill, 2007). This definition should suffice for a discussion of general regulatory themes.

We begin by noting the limited amount of academic research focused on regulation as it applies to microinsurance markets. Yanli (2009) discusses, but does not evaluate, the regulation of agricultural insurance in China, where regulatory authorities take an active role in developing agricultural insurance schemes through assuring government support for

research, data, market access, and customer protection. Describing and evaluating the Philippines microinsurance environment from a social policy perspective, Llanto (2007) proposes the need for a regulatory system that assures protection for policyholders while supporting the development of microinsurance markets. He does not take an economic approach to his analysis, nor does he detail the specifics of such a regulatory approach. Rather, Llanto's work seems to be a call for further research that will help yield answers and ultimately generate solutions for the expansion of security to people in low-income classes.

A few studies focused on other aspects of microinsurance offer some evidence of regulation-induced problems in the development of microinsurance markets. Tight regulatory schemes (see, e.g., Asfaw & Jütting, 2007) and regulation-induced transaction costs (see, e.g., Pauly et al., 2006) are some of the problems reported. An issue that seems prevalent in these markets is one of trust or, rather, distrust by the community, especially of governmental entities. When passing new regulations, therefore, assurance that those regulations will be enforced is critical in order to avoid reinforcing the population's perception of the government as untrustworthy (see Dlugolecki, 2008).

In addition to the academic literature, several NGOs and other supporting organizations (e.g., Microinsurance Network and Access to Insurance Initiative) have published detailed descriptions of the microinsurance regulatory environment in various countries, as well as suggested frameworks for sound microinsurance regulation (see, e.g., Chatterjee, 2012; Lester & McKee, 2012). Importantly, the international body of insurance regulators, the International Association of Insurance Supervisors (IAIS), also issued guidelines, which we specifically discuss below.

(c) **Microfinance**

Another set of literature helpful in evaluating microinsurance regulation is found in the microfinance field. Many microinsurance programs are connected to or derived from microfinance institutions (MFIs); therefore, we may well be able to gain insights from considering knowledge gleaned in MFI regulations. Existing work on regulation in microfinance emphasizes the need for:

- an industry-specific approach to MFI governance (see Mersland & Strøm, 2009),
- incorporation of country specificities in regulation to encapsulate the specificities of the macroeconomic environment and different stages of development (see Arun, 2005),
- sufficient regulatory capacity and quality (see Jalilian, Kirkpatrick, & Parker, 2007),
- recognition of the limitations of corporate self-controls in yielding desired outcomes when strong systems of transparency, monitoring and enforcement are lacking, a common condition in developing economies (see Graham & Woods, 2006).

3 CHALLENGES IN MICROINSURANCE REGULATION

As noted above, academic researchers argue that insurance regulation is socially beneficial in the presence of market failures associated with principal-agent conflicts and/or informational asymmetries. Within the microinsurance markets specifically, significant market failures have been identified (for a review, see Biener & Eling, 2012). These market failures stem in large part from uniqueness of the product and market, suggesting that microinsurance may be a setting that particularly justifies governmental intervention. In Table 3, we list issues somewhat peculiar to microinsurance as well as regulatory responses often suggested to address them. The following subsections discuss the appropriateness of such responses.

Table 3. *Central Challenges in Microinsurance Regulation*

Issue	Possible Regulatory Response
1. An effective definition of microinsurance should avoid encroaching on or distorting other insurance markets	<ul style="list-style-type: none"> ▪ Define boundaries to fit specific situations where market failures exist ▪ Avoid opportunities for market arbitrage
2. Encourage innovations to reduce the influence of adverse selection and moral hazard that generate from relatively high administrative costs due to low coverage and low premium levels	<ul style="list-style-type: none"> ▪ Encourage low-cost distribution channels and innovative partnerships ▪ Facilitate licensing procedures that account for the lower product complexity and the preference for intermediaries familiar to the consumer ▪ Provide certainty of allowable returns, given the need for higher returns on smaller premiums for a market to develop
3. Enhance product quality and consumer knowledge to address high levels of skepticism (lack of trust)	<ul style="list-style-type: none"> ▪ Identify and offer programs to enhance financial literacy, including understanding how the community benefits from some (but not all) members receiving compensation for losses ▪ Assure availability of underlying benefits, such as healthcare, covered by any available policies ▪ Assure high-quality claims payment and claims payment processes, including a defined complaint mechanism
4. Facilitate the transition of small, informal microinsurance schemes to regulated entities	<ul style="list-style-type: none"> ▪ Consider capital requirements that are different from those of traditional markets ▪ Support access to reinsurance and other risk transfer solutions ▪ Provide training to assure a knowledgeable and capable workforce ▪ Enforce laws against corruption to build up trust

(a) Define microinsurance to limit arbitrage and enhance market development

Any specific microinsurance regulation requires a definition of the product, market and/or institution in order to distinguish it from other insurance products, markets and/or institutions that are subject to a different set of regulation. To be effective, the definition ought to account for the characteristics of the product and industry that suggest separate regulation in the first place. An appropriate definition also will avoid encroaching on and/or distorting other insurance markets. That is, the definition and resulting regulations need to be written in a manner that limits incentives for regulatory arbitrage.⁴ To date, only six countries (Brazil, India, Mexico, Peru, the Philippines, and Taiwan) have specific microinsurance regulation.⁵ In these jurisdictions, three methods of categorizing microinsurance and microinsurers are employed. One is based on product coverage, such as the limit of insurance and/or premium falling below some designated level. A second is based on the market served, such as policyholders with incomes below a given threshold. The third is based on

characteristics of the entity taking on the risk (such as asset size) or, sometimes, the type of distribution channel (see IAIS, 2007; Churchill & McCord, 2012).

While a clear definition is important for deciding which contracts and activities are subject to the regulation, regulators also face the challenge that the definition be appropriately written so that actual market failures are the focus of the regulation. The concern is that an inappropriate definition may prevent some participants from entering the market, which could restrict product innovation and, ultimately, the goal of improved competition.⁶ Furthermore, variations in regulation across different market segments need to be designed to limit unwanted market distortions that generate from regulatory arbitrage. For instance, if lower capital requirements are implemented for products of a particular size, will insurers then seek means to sell more of those products than the market would support otherwise, by for example, selling two or three policies to the same individual, rather than one policy of the size desired by the consumer?

The question arises, then, as to whether these definitions address issues of market failure. In microinsurance we observe multiple areas of potential market failures associated with asymmetric information. We observe the standard issues of solvency, where the regulator is in a better position than the individual policyholder to implement successful monitoring of financial strength. Beyond this traditional area, we also observe significant asymmetric information in the form of adverse selection and moral hazard, far beyond what is encountered in the conventional insurance market. In the conventional market, insurers have access to various devices such as effective underwriting, pricing, and use of deductibles and exclusions to maintain acceptable levels of adverse selection and moral hazard. In the developing markets, however, data to estimate losses are less easily available, and perhaps more importantly, the consuming population is unfamiliar with underlying concepts of insurance. This lack of insurance knowledge often leads to distrust and discouragement when

losses are not covered for reasons that tend to be understood in the conventional insurance markets, such as for example, for pre-existing conditions.

These particular characteristics of microinsurance tend to mimic variations in existing product lines. For instance, we differentiate regulations across personal and commercial insurance, in part because of the perceived differences in consumer insurance expertise. Microinsurance demonstrates similar needs with an even more extreme lack of financial literacy. We take the position, therefore, that the definition of microinsurance ought to be one that distinguishes it as a unique product line. Some insurers will be specialized mono-line microinsurers. Others will be multi-line insurers with microinsurance as one line of coverage. We anticipate that the definition of microinsurance, therefore, will be a combination of target consumer (relatively low income) and policy form (generally low limits and simple coverage). In making this recommendation, we also encourage regulators to recognize risk differences between the micro and conventional forms of coverage, differences that ought to affect capital requirements. Doing so will aid the development of mono-line microinsurers that otherwise are not able to meet the standard insurance capital standards, a topic we discuss further in the following pages.⁷ We also recommend that regulators be active participants in enhancing financial literacy, particularly among the low-income population.

(b) Encourage innovations that minimize administrative costs

A major problem on the supply side of microinsurance is that policy administration involves substantial fixed and variable costs; hence, as coverage amounts decline, administrative costs become a larger portion of the premium and, by extension, the portion of the premium devoted to pay claims declines. These are conditions under which adverse selection becomes more likely. Furthermore, efforts to reduce administrative costs, such as minimal underwriting and claims adjusting procedures, are also associated with increased adverse selection as well as moral hazard. In other settings, insurers have dealt with these

informational issues through underwriting and product mechanisms and the concern is that regulatory interference may harm the market rather than benefit it (see Herring & Pauly, 2001). Regulatory limitations on permissible underwriting criteria, while intended to expand coverage to a greater array of policyholders, can actually shrink product availability (see Browne & Frees, 2004).

A number of creative microinsurance innovations demonstrate that technology may be a key mechanism through which administrative costs can be reduced. Cell phones, for instance, have been used to issue policies, pay premiums, maintain health status information, and, ultimately, make claim reimbursements. Innovative distribution channels have been key to successful expansion of the microinsurance market (i.e., reaching a larger percentage of the target population; see Lloyd's & Microinsurance Centre, 2009). Interestingly, some of these techniques are now being used in the developed market as well (see Burris, 2012). Such reverse innovations provide one rationale for extending regulations across the entire market rather than solely to the microinsurance market.

Similarly, organizations are entering into creative partnerships for purposes of expanding microinsurance availability. An example is Kilimo Salama's partnerships across insurers, seed distributors, communication and weather satellite organizations, the government, and NGOs in Kenya. Each member of this partnership has a vested interest in market expansion and each contributes specific expertise to the success of the whole.

Sometimes these innovative mechanisms and partnerships, however, are not permitted by the regulator. Licensing requirements are intended to protect policyholders from insufficiently informed and potentially unethical agents and insurers. Yet Wiedmaier-Pfister (2004) argues that requirements for distribution channels often are either too high, thereby decreasing market resources, or not sufficiently restrictive, consequently neglecting customer protection. Achieving a balance between customer protection on the one hand and innovation

and market efficiency on the other is an important task for regulatory authorities generally, not just in this setting.

Cost-efficient techniques are particularly important in microinsurance because of the low premium value per policy. These techniques reduce adverse selection by yielding a larger portion of each premium unit to pay for losses. Similarly, the low premium value leads insurers to seek a higher rate of return on microinsurance than from other coverages. Incentives to enter the market are reduced when regulators forbid higher returns and/or fail to offer some sense of certainty about what is an acceptable return. This outcome is similar to the need in the microfinance area for higher interest rates on microloans than on conventional loans. Importantly, even those higher rates are still far lower than what individuals can obtain through informal means (see Aiyar, 2010). A definition of an “acceptable return” in microinsurance is thus needed.⁸

(c) Enhance financial literacy and availability of services

Another distinctive feature of microinsurance markets is the target population’s lack of experience with financial services in general and with insurance specifically. This situation often leads to a high rate of moral hazard and adverse selection. In a review of the literature on microinsurance, Biener and Eling (2012) find that asymmetric information appears to be especially problematic for microinsurance markets, which experience high rates of fraud, anti-selection, and moral hazard. There are a variety of reasons for this situation, including general distrust of governments and large organizations in many of the regions where microinsurance is most needed, as well as a lack of understanding of insurance by the target population. Even among people who have been exposed to insurance throughout their adult lives, the idea that one should receive something tangible in return for a premium is prevalent.⁹ A recent interesting twist on moral hazard in insurance markets comes from the behavioral economics field where researchers have identified ethical “blind spots”; these occur, for example, when

we tell ourselves that adding the costs of car repairs that had nothing to do with the covered accident is legitimate because we have paid premiums for years without making a claim (see Bazerman & Tenbrunsel, 2011). Among a population new to the concept of insurance, ethical blind spots may be even more prevalent.

Below we discuss the important role played in the microinsurance market by small, informal insurers. Their importance generates from a variety of conditions, including an ability to address moral hazard and adverse selection. Another successful method in reducing moral hazard and adverse selection is implementation of programs that improve financial literacy. This is well illustrated by an experiment conducted by Karlan et al. (2011). They conducted a randomized field experiment in rural Ghana in which they offered two types of loans: crop price indemnified loans and loans without the indemnification (insurance) component. The indemnity component forgives 50% of the loan if crop prices drop below a threshold price. Both products were offered at the same interest rate. Loan uptake was high among all farmers, but both products were equally popular. Furthermore, households that demonstrated greater risk aversion were *less* likely to purchase the product with insurance, suggesting a lack of product understanding. This sort of evidence has led regulators and others, such as in Ghana, Brazil, and India, to initiate literacy campaigns.¹⁰

Encouragement of group insurance schemes also yields positive results in reducing moral hazard and adverse selection (see Biener & Eling, 2012). As observed in conventional markets, group insurance, where all group members are provided similar insurance coverage without individual underwriting, can be effective in maintaining low administrative costs. When those groups exist because of reasons other than the availability of insurance, they also can address issues of adverse selection directly (that is, members are not “selecting” membership because of the insurance). Some microinsurance mechanisms further structure coverage in a manner that encourages members to behave in a way supportive of the group rather than solely on their own behalf. Doing so will reduce moral hazard.

A key factor toward incentivizing insureds to be open, honest, and trustworthy, is for the insurance marketplace to deserve this type of trust. Underlying benefits must be made available before the insurance makes sense, while the claims adjusting process needs to be fair and honest, and not too restrictive. Especially among a population unfamiliar with insurance, a method to file complaints and be offered thorough and thoughtful responses to their concerns regarding claim denial is necessary for the community to support an insurance initiative. Without such an approach, the community quickly will become disillusioned and unwilling to participate in the market.

(d) Facilitate the transition of informal to regulated entities

Quite a bit of successful microinsurance is offered through small, local, somewhat informal providers and distributors. These could include, for example, a local religious entity or a community organization. The local and informal nature of the coverage tends to address consumers' general lack of trust of outsiders and especially large bureaucracies because the salesperson and policyholder are likely to know one another or at least know of one another. Their close association with the community also can address concerns about adverse selection and moral hazard through agent knowledge of the community, lower monitoring costs, and ability to educate community members about insurance concepts (see, e.g., Dercon et al., 2006).

Less formal processes, however, are vulnerable to problems of their own, including the law of small numbers, possibly ill-informed providers of coverage, and even the potential to take advantage of the participating members through misplaced trust. This is an area in which regulation can assist by assuring appropriate product design and delivery mechanisms (see Wiedmaier-Pfister & Chatterjee, 2006) or by mandating appropriate licensing procedures. For example, in a pilot program in Brazil, researchers found that a local agent, well known to the community, was far more successful in generating trust in the insurance mechanism than were

the other agents. The study sponsors suggested that agent licensing might focus on moral character and reputation more than on technical skills, with those technical skills being taught as needed over time (see CNseg, 2011).

Various regulations, especially licensing and capital requirements as they are currently implemented, may constitute significant barriers for the smaller microinsurers and their intermediaries. Successful regulation will find the proper balance between those requirements necessary to protect consumers and those which may not be appropriate for specific microinsurance characteristics. Beyond the requirements itself, it is especially relevant for regulatory authorities to facilitate the transition process of informal schemes to regulated entities. Cull and Demirgüç-Kunt (2011) show negative effects of regulatory compliance in the microfinance domain. Specifically, they observe that for-profit MFIs reduce their outreach activities to women and in areas costly to reach (such as rural areas) in response to solvency regulations. Less profit-oriented institutions, such as NGOs, respond to solvency regulation by maintaining their outreach efforts at the expense of higher returns. Cull and Demirgüç-Kunt (2011) focus especially on the size differentials between MFIs and more conventional institutions in explaining their results. If these conditions extend to the insurance market, we would imagine that capital requirements and limited access to reinsurers will pose major barriers to small microinsurers, and may impede competitive markets, especially if not based on organizational risk.

We therefore recommend consideration of capital and reinsurance requirements that encourage overall risk management and diversification, providing a broader set of options to all insurers, including microinsurers, than may currently exist. Small microinsurers with limited product diversification may not require the same level of overall capital as would the insurers selling more complex and varied products (products with higher limits of coverage and a broader list of covered perils). A risk-based capital approach may be useful in this setting (see also IAIS, 2007).¹¹

The potential systemic risk of small, focused microinsurers, however, may call for diversification across international boundaries through reinsurance or other alternative risk transfer mechanisms. For reinsurers, too, the opportunity to diversify across microinsurers functioning in numerous geographies could make their portfolios more efficient and effective. It is not uncommon in emerging insurance markets for regulators to require reinsurance from domestic carriers with the intent of supporting the local economy; yet, doing so can have a perverse effect of making the insurance market more expensive and too concentrated for the underlying risks. The result is a more lackluster market rather than one that is expanding.

We focus on support of local microinsurers and their agents in part because of the trust they engender. Lack of trust has been identified as a major barrier to successful development of microinsurance markets (see, e.g., Banerjee & Duflo, 2011). Therefore, in addition to support of the local microinsurers and their agents, governments should include elements of “fit and proper” licensing requirements that work towards assuring trustworthiness. The agents and insurer management must meet various requirements of honesty and fair dealing to be “fit and proper” members of the insurance community. Furthermore, requirements need to assure sufficient knowledge by those distributing coverage. Management education conducted by the regulator could be offered free of charge and on a voluntary basis to trusted members of the community to serve as local agents. In addition to the fit and proper requirements, the enforcement of laws against corruption, such as when an agent accepts premiums that are put into his or her own pocket rather than towards the issuance of insurance coverage, is an important element to build up trust.

4 REVIEW OF CURRENT REGULATORY SCHEMES

Insurance regulation varies substantially across jurisdictions and is often bewilderingly complex even within a single jurisdiction. Our discussion of general regulatory characteristics is therefore conducted at a basic level and only for purpose of comparing them with specific microinsurance regulatory systems. Microinsurance regulations are covered in more detail.¹²

(a) General global regulatory schemes

The IAIS has developed a set of “preconditions for successful insurance regulation.” These are broad underlying market and economic conditions that are necessary for an insurance market to flourish. They are not conditions within the purview of insurance regulators, yet the regulators have stated that these conditions are critical to their own success in developing a viable insurance market. The preconditions are listed in Table 4.

Table 4. *IAIS General Preconditions for Effective Insurance Regulation*

1.	Sound macroeconomic and financial sector policies
2.	Well-developed public infrastructure
3.	Effective market discipline in financial markets
4.	Appropriate public safety nets
5.	Efficient financial markets

The IAIS also has developed a set of “Insurance Core Principles (ICP),” which are intended to define a globally accepted framework for supervision within the insurance sector. The ICPs are envisioned as representing the highest level in the hierarchy of supervision, prescribing essential elements of a supervisory regime that promotes a financially sound insurance sector while providing an adequate level of policyholder protection (see IAIS, 2011). National regulatory standards are the next level in the hierarchy and can be linked to specific ICP statements, which can be related to the main areas of insurance regulation as defined by Skipper and Kwon (2007). The ICPs also clearly define the role and scope of the insurance supervisory authority.

Just recently the IAIS moved one step closer to providing microinsurance regulation by issuing an application paper on the “regulation and supervision of inclusive insurance

markets,” consistent with the G20 support of the Principles of Innovative Financial Inclusion. These efforts are viewed as being focused on microinsurance markets. Comments have been received on the application paper, and a working group of representatives from the IAIS and the Microinsurance Network has been formed (see IAIS, 2012).

(b) Existing microinsurance regulatory schemes – generally

As mentioned previously, six countries provide insurance regulation focused solely on microinsurance (Brazil, India, Mexico, Peru, the Philippines, and Taiwan). Moreover, a number of other countries are developing or implementing microinsurance regulation at the moment (Pakistan, South Africa, CIMA countries). We present an overview of the regulatory environment in these two sets of countries (those that have implemented, and those considering implementing, specific microinsurance regulations). Our intention is to evaluate the extent to which the existing mechanisms address issues of market failure and therefore qualify as socially beneficial regulatory systems.

We begin with consideration of the extent to which the IAIS preconditions for effective insurance regulation exist. While these preconditions are outside the sphere of influence of insurance regulatory authorities, they are critical to market success.

There are many possible proxies for measuring the general environment of insurance markets; we use indicators from the World Bank (2011) and the Heritage Foundation (2012). In Table 5 we present measures for each precondition for each country/region in which specific microinsurance regulation either exists or is under serious consideration.¹³ We also provide comparison data for the highly developed markets of the United States, the United Kingdom, and Germany.

Table 5. *Regulatory Environment*

Country	Government Effectiveness ^a	Rule of Law ^a	Regulatory Quality ^a	Control of Corruption ^a	Economic Freedom ^b
<i>Percentile ranks</i>					
Panel A: Countries with microinsurance-specific regulation					
Brazil	0.57	0.55	0.56	0.60	0.45
India	0.55	0.55	0.39	0.36	0.33
Mexico	0.62	0.34	0.59	0.45	0.71
Peru	0.47	0.32	0.67	0.50	0.78
Philippines	0.52	0.35	0.44	0.22	0.42
Taiwan	0.85	0.82	0.84	0.74	0.91
Panel B: Countries with no microinsurance-specific regulation					
CIMA ^c	0.17	0.22	0.25	0.20	0.26
Pakistan	0.26	0.26	0.30	0.12	0.34
South Africa	0.65	0.58	0.63	0.61	0.62
Panel C: Developed insurance markets benchmarks					
US	0.90	0.91	0.90	0.86	0.95
UK	0.92	0.95	0.97	0.90	0.93
Germany	0.92	0.92	0.94	0.93	0.86

Notes ^a 2010 Worldwide Governance Indicators by the World Bank (2011)

^b 2012 Index of Economic Freedom by the Heritage Foundation (2012)

^c Average values for the CIMA countries

Judging from the proxies for regulatory environment, the nations in which specific microinsurance regulation exists, and especially where such regulations are being considered, have quite some distance to travel before reaching the same level as the three highly developed insurance markets. In some instances, it could be more important to focus on achieving basic government, health, and welfare conditions than to expend energy improving insurance regulation. However, one purpose of expanding microinsurance markets is precisely to foster economic development. As Outreville (2012) notes in his recent survey of the literature, researchers find significant evidence linking a growing insurance market to a growing economy. The causal direction, however, is not clear and may be mutually reinforcing.

We are intrigued by variations across these countries and regions. Africa has seen significant growth of the microinsurance market (see Churchill & McCord, 2012), and yet it lags far behind in basic economic conditions. South Africa is the exception in these data and, not surprisingly, because it's insurance market has been active for a longer period and is more advanced.¹⁴ In contrast with most African nations, Taiwan demonstrates a relatively strong

and developed government and economy.¹⁵ Specific regulations for microinsurance products, therefore, may be appropriate more widely than just in emerging economies, given Taiwan’s introduction of such rules. Perhaps lessons learned from microinsurance markets in emerging economies offer opportunities for “reverse innovations” that can assist in extending economic advantages to low-income populations in more advanced economies.

(c) Existing microinsurance regulatory schemes – specifically

(i) Defining the product and the market

If specific rules are to be applied to microinsurance products and markets, those products and markets need to be defined. As noted above, three approaches to this issue have been employed to date: define the product, define the target population, or define the risk-taking entity. Brazil, India, Mexico, and Peru all define microinsurance in terms of product characteristics, while Taiwan defines microinsurance in terms of the “economically disadvantaged” target population to be served, that is, income levels of the target population. The Philippines uses both a product definition and an institutional definition through what are referred to as Mutual Benefit Associations (MBA), entities that are non-profits designed primarily to offer life, medical, and unemployment benefit coverage to association members. Not all microinsurers must be MBAs; rather, MBAs are given special recognition as microinsurers.

Relevant product characteristics typically incorporate lower and upper limits for coverage and upper limits for premiums. In India, explicit boundaries are set for coverage levels, contract terms, and insured age. The new microinsurance regulation in Brazil clearly sets maximum levels of microinsurance coverage besides also defining the general classes of insurance products, terms of coverage, exclusions, means of premium payment and other characteristics in different lines relatively precisely. In 2009, Peru significantly revised its microinsurance regulation by moving from a quantitative definition of microinsurance to a

qualitative definition referring to the provision of protection for low-income populations without setting limits on either coverage or premiums (see Ingram & McCord, 2011). The regulatory authorities explicitly address the problem created by defining microinsurance on a quantitative basis by arguing that limits on prices and benefits are potential impediments for the development of innovative microinsurance products (see SBS, 2010). We believe that the key issue in selecting among these (and possibly other) alternatives is to consider where information asymmetries will be greatest, and define the product and market to incorporate those situations.

(ii) Distribution

Regulators set relatively strict boundaries on microinsurance distribution, often narrowly defining the types of entities or individuals allowed to sell coverage. India's rules contain four categories of distributors: brokers, agents, corporate agents, and specific microinsurance agents approved only for non-profit institutions. Microinsurance agents sell only microinsurance and are granted more favorable regulatory requirements (see IRDA, 2005). Brazil and the Philippines implemented a similar system for specific microinsurance agents and brokers but it is not restricted to non-profit organizations. These agents and brokers are not permitted to sell other products and are subject to less strict licensing requirements in return (see Philippine Insurance Commission, 2010).¹⁶ Taiwan authorizes the distribution of microinsurance through agents and brokers who are permitted to sell either conventional or microinsurance (see Taiwan Insurance Bureau, 2009).

(iii) Product design and pricing

In most countries where specific microinsurance regulation exists, specific regulations have been implemented regarding product design and pricing. Both India and the Philippines, for example, require that microinsurance policies be easily understood and bear a specific obligatory microinsurance logo. The Brazil regulations also require simple terminology that is

easily understood by the insured. Taiwan includes these same types of requirements and also limits the term of coverage to no longer than one year and no more than one peril covered per policy (see Taiwan Insurance Bureau, 2009). Restricting the number of perils covered under one policy makes sense when it comes to reducing product complexity to account for low levels of financial literacy of the target population. It also is appropriate when data availability is limited, restricting the ability to analyze underlying risks as well as dependency among risks (see, e.g., Biener, 2013). Single-peril policies, however, limit the opportunity to experience efficiencies of bundling together coverages for several causes of loss. Furthermore, the policyholder is not particularly concerned with the precise peril that causes loss, just that loss occurs. If the target population is likely to need and want coverage for more than a single peril, it may be wise to devise a method to permit these broader contracts.

Rate restrictions similarly have the potential to dampen market opportunities for the target population. While insurance premiums are subject to some form of regulatory intervention in most areas around the globe, such restrictions tend to yield undesired outcomes, even when done with the best of intentions. Research on the US market consistently finds perverse effects of pricing restrictions, such as the reduced coverage availability in the US auto market (see Weiss, Tennyson, & Regan, 2010; Harrington, 1990). Similarly, rate restrictions in voluntary private health insurance markets intended to increase access to health insurance for high-risk individuals (e.g., with chronic diseases) sometimes lead to the exclusion of those risks from health coverage due to the insurers' anticipation of losses from coverages for high-risk types (see Van de Ven et al., 2000).¹⁷

The microinsurance market also has been subject to pricing restrictions and distortions, either through upper limits placed on premiums or through the use of direct premium subsidies. Premium subsidies may have positive short-term effects by increasing demand and reaching underserved populations; however, long-term incentives and willingness to pay might be detrimentally affected, leading to higher aggregated costs to

society as a whole.¹⁸ These market interventions often result in higher premiums as well. When governments and, by extension, their populations believe that access to a product or service ought to be increased, methods that increase resources rather than reduce prices tend to be most effective. Hudon and Traca (2011), for instance, identify improved efficiencies for MFIs that receive “smart subsidies,” which are those that are definitive, time-designated, and limited. Furthermore, the subsidies are most effective when they go to the lending institution rather than the consumer.

We recommend, therefore, that governments not subsidize insurance premiums directly. Rather, we recommend that efforts be made to expand insurance for underserved populations by: (1) working to improve earning opportunities for these underserved populations so that they can afford insurance; (2) educating the populace about risk and insurance to increased demand as well as lessen moral hazard; (3) providing mechanisms to improve insurer efficiency such as sharing data and expertise; and (4) working toward lowering the cost of and increasing access to needed services, such as healthcare.

In setting regulatory policy, true market failures as distinguished from undesirable market outcomes should be the focus. Once market failures are identified, government interventions that will address those failures most effectively should be considered. Specific areas where governments likely have some advantage include (1) educating, both the public and the insurers (e.g., salespeople, claims adjusters, underwriters, actuaries); (2) providing a platform to share data to deal with concerns of small numbers (e.g., loss, weather, health, or mortality data); and (3) lowering regulatory barriers, for the industry as a whole, perhaps, not just microinsurance.

(iv) Prudential (solvency)

Many researchers suggest that prudential regulation, that is, solvency, is the primary area where insurance regulation is obviously supported by an underlying economic rationale.

Insurers tend to have information regarding their risk-taking strategies that is superior to that known by policyholders (see Klein, 2012 for a discussion). This is precisely the sort of asymmetric information situation where regulators may be able to achieve a socially beneficial outcome through interference with the market.

For the past several decades, solvency regulation has been a major focus of regulatory bodies and academic researchers, with the resulting development of risk-based capital standards in the United States, Solvency II in the European Union, and initiatives in New Zealand, Switzerland, and elsewhere urging the greater use of modeling and principles-based approaches to solvency requirements. The developing world, however, still tends to rely on simple rules of minimum capital levels in absolute terms (i.e., without considering risk). Holzmüller (2009) and Cummins, Harrington, and Niehaus (1994) offer evidence of concerns with the rules-based approach as well as a set of criteria to evaluate the appropriateness of insurance solvency regulations. In the light of potential weak enforcement of regulation in microinsurance markets, it is, however, not clear whether principles-based approaches to solvency requirements will eventually result in the desired outcomes (see Di Lorenzo, 2012).

Capital requirements are a source of concern for many local microinsurers, a concern that is supported by studies showing that capital requirements often are too high for the small policies sold by locally organized microinsurers (see, e.g., Wiedmaier-Pfister, 2004). In India, for example, capital requirements for microinsurers are equal to those of conventional insurance companies (see Sinha & Sagar, 2009). High capital requirements can hinder the growth of the microinsurance industry by implicitly requiring more costly risk transfer solutions such as reinsurance from domestic reinsurers (rather than from the international market as a whole). Some support for this hypothesis is found by Berry-Stölzle, Hoyt, and Wende (2010), who observe that larger insurers in emerging markets, those that can more easily meet capital requirements stated as an absolute amount and who have greater access to alternative capital sources, have higher performance.

Initial capital requirements also hinder market entry. In India, for example, the initial capital requirements for registering a microinsurance business amount to INR 1 billion (US\$ 18 million). Similarly, the Taiwan regulatory authority applies the same capital requirements to microinsurers as to conventional insurance companies, with the exception of group-insurance policies for which other, not explicitly specified, rules may apply (see Taiwan Insurance Bureau, 2009). The minimum initial capital requirement for a locally incorporated insurance company is NT\$ 2 billion (US\$ 67 million; see Wong, 2011).

The Philippines, in contrast, implemented a separate system for MBAs not able to meet the minimum capital requirements. These associations must register with the regulatory authorities and increase their capital over time. The initial capital requirement is PHP 5 million (US\$ 120,000). This approach has proven successful in encouraging previously informal and unsupervised microinsurers to approach formalization under the regulatory framework (see Bester, Chamberlain, & Hougaard, 2008). After amending the microinsurance regulatory framework in 2010 (see Philippine Insurance Commission, 2010), the Philippine government increased capital requirements for all insurance companies while also introducing separate microinsurance capital regulations. Microinsurers, other than MBAs, are now required to hold PHP 500 million (US\$ 12 million; see Philippine Department of Finance, 2012). This is a substantial sum, but lower than that required of other insurers, some of which are required to hold PHP 1 billion (US\$ 24 million). MBAs continue to enjoy the lower requirements as noted above (see Philippine Insurance Commission, 2006). In addition to initial capital requirements, the Philippines adopted ongoing performance requirements for solvency, liquidity, and leverage (see Philippine Insurance Commission, 2011).

South Africa is in the process of implementing a new comprehensive regulatory framework for microinsurance that is expected to come into effect in 2013. Currently, microinsurers fall under the regulation for long- and short-term insurance, for which minimum capital requirements of ZAR 10 million (US\$ 1.20 million) and ZAR 5 million

(US\$ 0.60 million) are applicable, respectively (see Bester et al., 2009). Under the new microinsurance regulatory framework, ZAR 3 million (US\$ 0.36 million) is envisioned as upfront capital (see South African National Treasury, 2011).

Other African countries, specifically the CIMA countries, are on a path to separate microinsurance regulations, having agreed in 2012 to implement new microinsurance regulations (see Microfact, 2012). Pakistan also is on track to develop microinsurance regulatory rules and is in the process of drafting rules in consultation with stakeholders (see Abores, 2011).

Capital requirements in developed insurance markets such as EU countries and the United States include both a floor or minimum requirement and a risk-adjusted level above that floor based on the insurer's own characteristics. Somewhat surprisingly, the minimum requirements in some of the micro markets are relatively high even when compared with the EU, where insurers are required to hold a minimum of US\$ 2.7 million (non-life) and US\$ 3.9 million (life) of capital (see European Parliament & Council, 2009), and the United States, where minimum capital requirements vary by state, but are in the range of single-digit million US\$ amounts (see NAIC, 2012). These figures make the microinsurance capital requirements seem somewhat inappropriate. We encourage regulators and governments to consider lower requirements as well as, and perhaps more importantly, risk-based requirements. The IAIS recommends consideration of "proportionality," which would adjust requirements based on an insurer's size and risk status. We further suggest that policymakers work to make rules consistent across all jurisdictions to limit regulatory arbitrage.

5 CONCLUSIONS

Private market mechanisms intended to address various social issues often referred to as "social entrepreneurship" or "social innovation," have expanded significantly in the past 20 years. Perhaps Muhammad Yunus's Grameen Bank, for which he received the Nobel Peace

Prize, is the best known of these. Social, cultural, and economic conditions all have played a role in the decreasing involvement of governments and the increasing use of private markets in addressing social issues. Microinsurance fits well within this framework.

Swiss Re (2010) estimates a potential of US\$ 33 billion in premiums from a robust worldwide microinsurance industry market to low-income, but not destitute individuals, only a small fraction of which has been tapped to date. An enormous potential exists not only for insurer revenues but also for improving the lives of many. To make this a reality, we need to understand why it is not in place already. A number of authors highlight problems in the microinsurance market, including financial literacy (or lack thereof), trust in governments and outside organizations (or lack thereof), administrative costs of product sale and delivery, and the basic availability of underlying services (e.g., healthcare). In this paper, we evaluate the regulation of microinsurance with the aim of identifying those areas where regulators can assist (and those where they can hamper) the development of microinsurance markets.

We make the following conclusions and recommendations. First, we encourage regulators to avoid developing regulatory arbitrage between conventional and microinsurance markets. Specifically, we encourage clear boundaries between the two business forms so as to limit undesired market distortions.

Second, we encourage regulators to appreciate the differences between microinsurance and conventional insurance markets, developing programs that address the uniqueness of each. Early efforts in developing microinsurance products as well as regulation tended to treat the fields the same, just smaller policies in the microinsurance domain. As more nuanced approaches to the microinsurance market have emerged, greater successes have been experienced as well (see Churchill, Dala, & Ling, 2012).

Broadened distribution channels, not just for microinsurers, but across the spectrum of insurers, may be appropriate as technology evolves. Similarly, risk-based capital and reinsurance requirements will improve all underlying insurance mechanisms.

We also encourage regulators to consider financial literacy initiatives. There is good reason to believe that such initiatives can significantly improve the lives of many. This type of activity also meshes well with the governmental goal of providing security to the populace. Who better to undertake the role of enhancing financial literacy than one without a vested interest beyond true understanding?

Lastly, we encourage our academic colleagues to engage in research on this topic, and insurers and regulators to freely provide data for such research. Not only will the research aid in developing successful microinsurance markets, but it may well lead to successful innovation in the conventional markets.

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- ¹ We believe that microinsurance is not likely appropriate for people at the very bottom of the pyramid; therefore, our estimates of the market may be more in the range of 1.5 to 2 billion individuals.
- ² Being relatively new, microinsurance has not yet received extensive specific regulatory attention. Just six countries provide insurance regulation focused solely on microinsurance. India was the first in 2005, followed by the Philippines (2006), Peru (2007), Mexico (2008), Taiwan (2009), and Brazil (2012). Other countries, notably Pakistan, South Africa, and a coalition of other African countries, are either considering or in the process of implementing specific microinsurance regulation. The coalition of African countries is the Inter African Conference for the Insurance Market (CIMA). Member countries are Benin, Burkina Faso, Cameroon, the Central African Republic, Congo, Côte d'Ivoire, Gabon, Equatorial Guinea, Guinea-Bissau, Mali, Niger, Senegal, Chad, and Togo.
- ³ Programs designed to expand coverage, such as limitations on health insurance underwriting restrictions (see Browne & Frees, 2004; Hoffman & Browne, 2012) tend to have adverse effects of higher prices and in some instances lower supply. Similar effects have been documented in efforts to place caps on prices (Klein, 2012; Weiss, Tennyson, & Regan, 2010; Harrington, 1990, among others)
- ⁴ Regulatory arbitrage can occur when there are two or more sets of regulations applicable to a microinsurance product and/or insurer; e.g., when a product qualifies for both regular and microinsurance regulations. In such a situation, insurers will naturally classify their products such that costs (e.g., capital requirements) are minimized.
- ⁵ Pakistan, South Africa, and other African countries are considering specific regulation, and are likely to implement it soon.
- ⁶ For example, some countries define microinsurance with regard to products addressing a specific target population in a certain range of income. Setting such thresholds is challenging and likely excludes some of the potential target population.
- ⁷ It is likely that those insurers offering microinsurance only (i.e., mono-line microinsurer) are required to hold more equity capital as compared to insurers offering multiple lines including an equal line of microinsurance business (i.e., microinsurance as business line) because of lower diversification of risk. However, compared to approaches of simple minimum capital rules for all insurers presently applied (see Section 4(c)), significant reductions of capital requirements are to be expected for the microinsurance space if based on risk.

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- ⁸ Around the globe, insurance prices are regulated in a variety of ways. Sometimes they are capped, sometimes the assumptions used to set them must be approved, sometimes they must follow principles of being “adequate,” “not excessive,” and “not unfairly discriminatory.” This latter set of statements is found in most US jurisdictions, with interpretation open to the regulator. Adequate typically is connected with solvency concerns, while “not excessive,” would connect with an acceptable return to insurers, after considering operating and loss costs. For low-premium products, a higher proportion is expected to go to the insurer simply to make the effort worthwhile. As a “return,” the payment can look large. For example, one that allows profits commensurate with the higher risk of microinsurance. Another question which has been studied in this context is the question of the optimal ownership form for providing microfinance. Most providers, both historically and today, are non-profit organizations or cooperatives, while policy papers advocate shareholders firms (see Mersland, 2009).
- ⁹ According to a study from GDV (2011), more than 20% of Germans consider insurance fraud to be a “trivial offence” which is committed by almost everyone at least once.
- ¹⁰ The Brazilian Insurance Confederation (CNSeg) has initiated an interesting program titled *Estou Seguros* and the Microinsurance Academy (MIA) in India has implemented a variety of creative programs; these are just two of many other examples.
- ¹¹ One major issue with regard to the estimation of the microinsurer’s risk and the required capital is that small microinsurers may not have the resources needed to complete such analyses effectively. Here is an instance where the regulator could play an important role by undertaking much of the analysis, developing standard models as well as providing technical support.
- ¹² Throughout the paper we do not discuss Sharia-conforming insurance products (Takaful) in detail although these also can be interpreted as a kind of regulation. We refer to El-Hawary, Grais, and Iqbalb (2007) and Pepinsky (2013) for more details about Sharia-conforming financial products.
- ¹³ In South Africa, draft microinsurance legislation is supposed to be submitted to parliament in early 2013 and implementation is expected toward the end of 2013/2014. The countries of CIMA signed an agreement to implement microinsurance regulations but we are unaware of definite implementation plans. Pakistan currently is in the first consultation phase of its proposed microinsurance regulatory framework, which is expected to conclude at the end of 2012.

- ¹⁴ South Africa has long supported the insurance industry, with the Insurance Institute of South Africa dating to 1898. The populace, therefore, has a stronger knowledge base and familiarity with the industry than in many other developing nations.
- ¹⁵ The International Monetary Fund (IMF) classifies Taiwan as an advanced economy (see IMF, 2012).
- ¹⁶ Microinsurance agents and brokers do not have to pass the regular licensing examination, but instead must participate in an approved training program and take a final examination (see Philippine Insurance Commission, 2010).
- ¹⁷ Insurance rate restrictions below what the market would yield always imply a cross-subsidization scheme between high-risk and low-risk types that will only be viable if the insurer has a sufficient share of low-risk types that compensate for the losses from high-risk types. Adverse selection effects may, however, easily put the viability of the scheme at risk (see Van de Ven et al., 2000).
- ¹⁸ Evidence for undesired market distortions from subsidies can be found for agricultural markets, flood insurance in the United States, and even some microinsurance markets. Subsidizing microinsurance may create incentives for risky behavior and permanently reduce willingness to pay (see Latortue, 2006). For example, in India, a subsidized insurance premium was provided for individuals below the poverty line. After two years, the subsidy was removed; less than 30% of the members wanted to renew their policies. If subsidies are granted to increase access of high-risk types, e.g., to health insurance, there is huge potential for adverse selection into the insurance pool because low-risk types will not be willing to pay substantially more for the coverage and will drop out of the pool, resulting in increasing average losses (see, e.g., Weiss, Tennyson, & Regan, 2010).