Actuaries In Microinsurance

Managing Risk for the Underserved

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Most microinsurance services are developed without proper actuarial experience, which can put millions of clients at risk of inadequately priced products and broken contracts. Actuaries, who deal with business risk, are the pillar of insurance companies worldwide but not many people are aware of why that is even more true when dealing with low-income clients. This book will finally shed light on this and help make microinsurance a safer business.

—Véronique Faber

Executive Director of the Microinsurance Network

One of the constraints inhibiting the expansion of better insurance services for more low-income households is sufficient technical expertise. There are certainly lots of people who understand development, and even more who understand insurance, but there are very few experts in insurance and development. The contributors to this valuable publication represent the burgeoning nucleus of this expert cadre, and hopefully their thoughts and experiences will inspire many more actuaries around the world to apply their technical skills to achieve development objectives.

—Craig Churchill

Team Leader, ILO Impact Insurance Facility and former Chair of the Microinsurance Network

Dedication

This first book on microinsurance especially written for actuaries is dedicated to the visionaries who see a potential business case in financial inclusion, to the pioneers paving the way for actuaries to contribute to insurance protection for the underserved, and to the trailblazer providers and participants daring to experiment with something "new" so that future generations can benefit from the mainstreaming of microinsurance.

Acknowledgements

We would like to thank Stephen Camilli at Actex, who tirelessly supported us through the numerous rounds of reviews and edits to the final publication of the book. We would also like to thank the champions of microinsurance, who lifted this concept from obscurity to the forefront of financial inclusion. Thank you to our authors for sharing their experience and know-how. Finally, a big thanks to our families for standing by our side and cheering us on as we venture off the beaten track into the world of microinsurance.

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Section One

INTRODUCTION

Foreword

By François-Xavier Hay

Since the term microinsurance emerged in 1999 from one of David Dror's publications, there have been numerous attempts to define microinsurance, but no single definition gives an accurate account of things on the ground. Some talk about non-public and non-commercial protection systems. Others highlight a setup for covering people excluded from classical insurance distribution channels, with cheaper and simpler products, tailored for poor families. To these the IAIS¹ prefers the concept of "inclusive insurance," defined in its October 2012 application paper, and positioned microinsurance in the financial inclusive objective of the G20² for global financial stability. With a constraint of inclusion, microinsurance comes as a challenge for insurers, starting with their actuaries.

Microinsurance is supposed to address more than 4 billion individuals' protection needs: a market that Swiss Re values at 40 billion USD³. In the most recent landscape studies⁴, microinsurance reached nearly 265 million people, mainly in Asia. For a few dollars of premium, benefits of a few hundred were provided in the case of hospitalization, drought or flood.

Microinsurance clients are—by definition—difficult to access. Such constraints have stimulated innovation for serving people with adapted covers such as using telephone platforms for health prediagnosis, satellite technologies for indexed products, and

¹ International Association of Insurance Supervisors

² International forum for the governments and central bank governors from 20 major economies.

³ Swiss Re sigma study No. 6/2010 "Microinsurance—risk protection for 4 billion people."

⁴ Microinsurance landscape studies for Caribbean and Latin America (2014), Asia and Oceania (2013), and Africa (2012) are available at www.munichre-foundation.org/home/Microinsurance/Microinsurance Landscape.html

mobile banking. These innovations are useful for the whole insurance sector.

On the other hand, inclusive insurance may sound like an oxymoron when compared to the increasingly selective traditional insurance sector. Considering social protection or food security with agricultural index insurance, the inclusive insurance approach of microinsurance should play a crucial role in contributing to society's development and financial stability. As more and more governments encounter difficulties facing their "social commitments," microinsurance is seen as a risk mitigation tool in a "public risk management approach" for controlling health, longevity or food security risks.

Microinsurance invites actuaries to rethink the answer to risks starting from a blank page. The insurance we know in developed countries is the fruit of a long history starting in the 1500s, covering goods transported by sea or artisans through guilds' mutuals (insurance organizations owned by their policyholders). Today's trends in terms of numbers of catastrophes and longevity evolution, and its impact on retirement, bring with them a huge need for insurance, especially in emerging countries.

With the support of new technologies, actuarial entrepreneurs have a fantastic opportunity to innovate in social protection, agricultural covers, and behavioral incentives for better and fairer risk management products.

Most of the time an insurance product can't be reduced to a risk transfer, as clients' behaviors do play a key role in the system. Mutuals, which are just one of the approaches to microinsurance, are key in understanding how to build insurance markets for the poor by making them an active participant and creating not only a sense of entitlement, but also a sense of responsibility that is crucial for managing risks. Therefore, beyond traditional selective approaches, microinsurance invites actuaries to revisit insurance products and processes in an inclusive way where clients are considered as active stakeholders.

The microinsurance actuarial community was a tiny village ten years back. We all knew each other, and I am extremely grateful to Jeff Blacker and Mary Yang for this initiative. They and the authors are committed to developing fair microinsurance schemes, travelling around the world supporting numerous communities in remote areas. This book is the occasion to share the pleasure of working for a common good and contributing to the social responsibility of the actuarial profession. It invites actuaries to strengthen their products' legitimacy aligning insureds' and insurers' interests on risk value chains in an inclusive way for better client satisfaction and public risk management!

May actuaries take advantage of this book to enrich their inspiration and strengthen the purpose they bring to their daily job, or even to respond one day to a support request somewhere very far away that may, just maybe, change their lives.

Introduction

By Jeff Blacker

Let me begin by thanking the actuaries who wrote the following chapters. I admire each of them for their work in developing areas.

Microinsurance provides an opportunity to make a positive impact in people's lives with your actuarial work. You meet people you would otherwise never meet and visit parts of the world that you would otherwise never see. This book aims to increase the actuarial capacity in the microinsurance market, improve the relevance and sustainability of products, and ultimately assist individuals, families, and communities escape poverty forever.

My interest in writing this book was prompted by a number of actuaries who have asked how I got started in microinsurance and where they can learn more about it. I left a traditional actuarial job in 2007 in search of more fulfilling actuarial work. I stumbled onto microinsurance shortly thereafter. Some of my most rewarding work experiences have been overseas microinsurance consulting projects. Additional details of my journey are provided in a later chapter.

In this introduction, I would like to answer 3 questions: "What should you expect from this book?", "Where is microinsurance today?", and "Where does this book fit in among the other microinsurance writings?"

WHAT SHOULD YOU EXPECT?

This book contains 10 anecdotes and 12 technical chapters all related to actuarial work in microinsurance. The anecdotes are short personal stories from actuaries working around the world in this emergent field of microinsurance. You should expect the anecdotes to be informal. They are written in the first person, provide a "human" touch, and should be both entertaining and useful.

The technical chapters are meant to be educational. While this is not a textbook, these chapters will be a useful reference for actuaries who are not already microinsurance experts. Some technical chapters offer websites where you can find additional information for a particular topic.

WHERE IS MICROINSURANCE TODAY?

The volume of microinsurance is large and growing, but it has not yet reached its full potential.

The MunichRe Foundation website provides "landscape studies" which provide details on the number of lives covered, amount of premiums inforce, and types of products available¹. There are six studies currently available for downloading, which vary by year and geographic region. As you read in the foreword, recent landscape studies indicate that microinsurance reaches nearly 265 million people. The studies reflect an annual growth in number of insureds of approximately 30%, 25%, and 2% in regions "Africa", "Asia and Oceania", and "Latin America and the Caribbean".

While the growth rates are impressive, it should be mentioned that microinsurance initiatives facemany challenges. Achieving scale, sustainability, and impact has yet to be achieved by many, but not all, microinsurance initiatives.²

WHERE DOES THIS BOOK FIT IN AMONG OTHER WRITINGS?

Actuaries in Microinsurance is a collaborative book written by actuaries about their microinsurance experience. It is unlike other publications, because it focuses on actuarial aspects of microinsurance.

Microinsurance readings available online include academic research, case studies, compendiums, and others. The number of

¹ www.munichre-foundation.org/home/Microinsurance/Microinsurance Landscape.html

² Gross, P. *Microinsurance: Disrupt, Fail, Repeat?* Retrieved May 8, 2015, from www.cgap.org/blog/microinsurance-disrupt-fail-repeat

resources is almost overwhelming (e.g. the Microinsurance Network alone has over 500 high-quality resources). Our chapter "Data Sources" includes a table to help you locate helpful information online.

With so many readings already available, where does this book fit in? This book attempts to do two things that the other readings do not. First, the personal anecdotes give non-microinsurance experts a sense of what it is like to work in developing regions. Second, the technical chapters are written and edited by actuaries with the aim of discussing and educating on a wide variety of topics directly relevant to other actuaries. This resource will be beneficial to actuaries in traditional markets, young actuaries living in developing regions, and microinsurance workers who desire to learn more about the actuarial aspects of this market.

CLOSING REMARKS

You may be working in a traditional actuarial job yourself, or perhaps you are already involved in the growing field of microinsurance. I hope this book helps you enjoy a fulfilling career in whatever path you choose.

www.microinsurancenetwork.org/resources

What is Microinsurance?

By Mary Yang

ORIGINS OF INSURANCE

The term "microinsurance" has steadily attracted increasing international attention over the past decade. To begin understanding the concept of microinsurance, it is critical to understand the parent term from which "microinsurance" is derived and the circumstances that gave birth to microinsurance. Insurance is a "risk-transfer mechanism that ensures full or partial financial compensation for the loss or damage caused by events beyond the control of the insured party."2 The notion of insurance has its origins in mutual aid³ and human survival. By contributing material and labor to a neighbor whose home has been destroyed by fire, one can reasonably rely on similar aid should he be visited by similarly damaging misfortunes. Mutual aid evolved into something more formal over time. By pooling resources, whether skills, knowledge, physical assets or monetary assets and whether between two individuals or amongst a community, the welfare of those who take part in such an arrangement improves. With the emergence of the idea of "contracting," "pooling" and "risk transfer" was further formalized into "insurance". Over its five millennium history, what remains constant in the notion of insurance are its fundamental principles: insurable interest, indemnity, good faith, and proximate cause.

DEFINITIONS OF MICROINSURANCE

The term "microinsurance" first emerged in the late 1990s in the context of international development and microfinance. Against a backdrop of the microcredit movement, microinsurance was

¹ The author thanks the Microinsurance Network for its very informative website, which serves as a source of much of the information presented in this chapter ² www.businessdictionary.com.

³ Prudential Insurance Company of America, ed. *The Documentary History of Insurance*, 1000 B. C.–1875 A.D. (1915)

singled out as a much needed financial service to allow the poor to gain access to credit, to support the viability of credit providers and to protect the productive assets of the loantaker.

In the years since, as it has become a regular part of the drive for financial inclusion, several definitions of microinsurance have emerged. Some of the often cited definitions include:

Table 1

Source	Definition
National and Internation	nal Regulatory and Supervisory Bodies
Insurance Regulatory and Development Authority, India 2005	A general or life insurance policy with a sum insured of INR 50,000 (approximately USD 800) or less
International Association of Insurance Supervisors, 2007	Insurance that is accessed by the low-income population, provided by a variety of different entities, but run in accordance with generally accepted insurance practices. Importantly this means that the risk insured under a microinsurance policy is managed based on insurance principles and funded by premiums.
Superintendencia de Seguros Privados, Brazil—Microinsurance Bill, 2008	Microinsurance is the insurance protection provided by licensed entities within the country against specific risks which aims fundamentally to preserve the socioeconomic, personal, and family situation of the low-income population by means of premium payments which are proportional to the probability and cost of risks involved, in accordance with legislation and globally accepted insurance principles.
Philippines Insurance Commission, 2010	Microinsurance is an activity providing specific insurance, insurance-like products, and other similar products and services that meet the needs of the low-income sector for risk protection and relief against distress, misfortune and other contingent events.

Source	Definition
National Treasury, Republic of South Africa—The South Africa Microinsurance Policy Framework, 2011	At the simplest level, microinsurance refers to insurance products that are accessible to and/or used by low-income households. The definition of microinsurance should simultaneously achieve two goals: It should reflect the features of products demanded by the low-income market; and It should generate sufficiently low prudential risk so that microinsurance products can safely be provided by a wide range of microinsurers and be straightforward to distribute, these factors combining to meritsimplified regulatory requirements.
Insurance Regulatory Authority, Kenya—The Kenya Microinsurance Policy Paper, 2014	Microinsurance is defined as insurance that has been designed to be accessible to the low-income population and where the risk insured under a microinsurance policy is managed based on insurance principles and funded by premiums.
International Developm	nent Agencies
Preliminary Donor Guidelines, 2003	The protection of low-income people against specific perils in return for regular premium payments proportionate to the likelihood and cost of the riskinvolved
Micro Insurance Academy, India, 2007	A risk transfer device characterized by low premiums and low coverage limits, and designed for low-income people not served by typical social insurance schemes.
International Labour Organization, 2008	A mechanism to protect poor people against risk (accident, illness, death in the family, natural disasters, etc.) in exchange for insurance premium payments tailored to their needs, income and level of risk.
Insurance Providers	
The Allianz Group, 2013	Microinsurance offers protection against the risks in life, specifically for low-income people in developing countries and emerging markets, with customized products and processes.

Source	Definition
Pioneer, Philippines, 2014	Insurance coverage at minimal cost.
Britam, Kenya, 2014	Microinsurance plans provide protection to individuals with low income offering benefits such as affordable premiums, a wide range of benefits targeting multiple needs and no medical examination prerequisites.

These varying definitions have been heatedly debated. Opinions differ as to whether microinsurance should embody elements of low coverage and low premium. When one delves into the minute details, the target market for microinsurance may differ. Some argue that microinsurance is for the poor.

Others believe that it is for anyone with limited access to financial services. Still, there are those who view microinsurance as an

alternative to social security while others argue that the ability of the market to pay premiums must be present.

Despite the differences in the nuances of the range of definitions, it can be observed that what is common to many of the definitions referenced in the microinsurance space is: low cost protection for low-income people.

"In Brazil the term 'popular insurance' is used standing for small-scale mass products. However, popular is not the same as microinsurance since microinsurance targets low-income households whereas popular insurance is for all kinds of customers and just means insurance of small amounts."

The MicroInsurance Centre's 2011

discussion paper on "Defining Microinsurance: thoughts for a journey towards a common understanding" provides perhaps the most concise and current account of this debate. This paper observes that the prefix "micro" is most commonly used to describe the product and/or the target market. Some markets have taken a quantitative approach to defining who is "low-income," what is considered a "micro" coverage and/or what is "low premium,"

⁴ www.susep.gov.br/menuingles/microinsurance

primarily driven by the regulators' need to define what is being regulated. In other markets, however, the general adoption of a qualitative definition, or even the lack of a definition, of "microinsurance" has not been observed to hinder the development of microinsurance.

ILLUSTRATING MICROINSURANCE THROUGH EXAMPLES

In the past decade, numerous microinsurance products have been developed in the most remote parts of the world. The State of MicroInsurance map (see next page) produced by the Microinsurance Network provides an industry-wide overview of where microinsurance has manifested through the interaction of supply and demand.

Table 2: Microinsurance in Africa and in Latin America and the Caribbean: Landscape Studies⁵

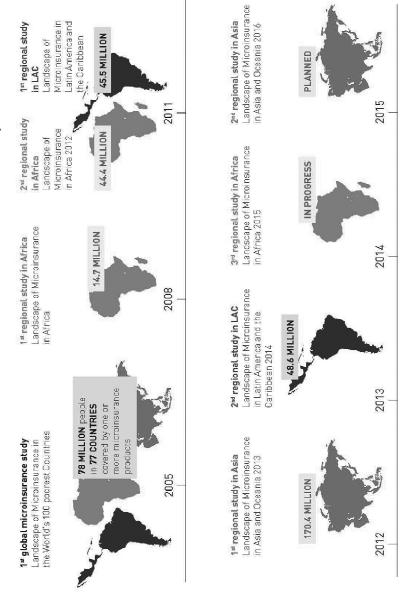
By the Numbers					
	Africa	LAC			
Countries studied	51	20			
Countries in which MI was identified	39	19			
Study respondents	214	108			
Providers	511	99			
Total products	598	159			

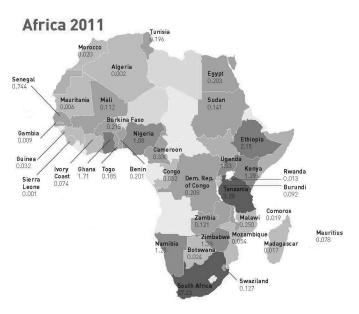
Covered Lives/Properties (in millions)					
Risk Type	Africa	LAC			
Life	33.9	32.5			
Credit life	8.8	15.9			
Accident	2.0	24.0			
Health	2.4	10.3			
Property	0.8	2.9			
Agriculture	0.2	0.3			
Total unique covered lives/properties identified	44.4	45.5			
Coverage ratio	4.4%	7.6%			
Note: Components do not sum to the total due to bundled products.					

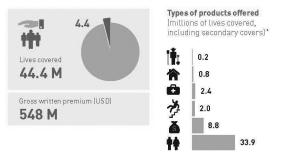
 $^{^{5}}$ www.microinsurancecentre.org/landscape-studies.html

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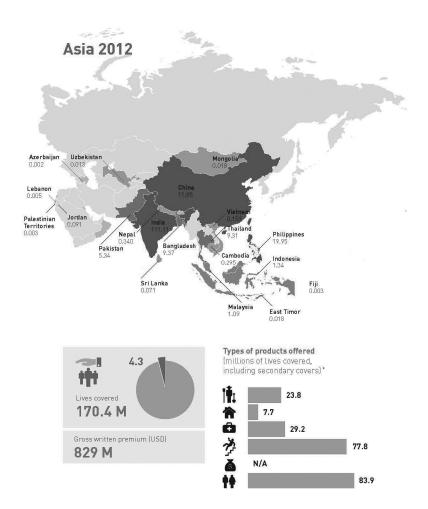
Figure 1
The State of Microinsurance Global Landscape

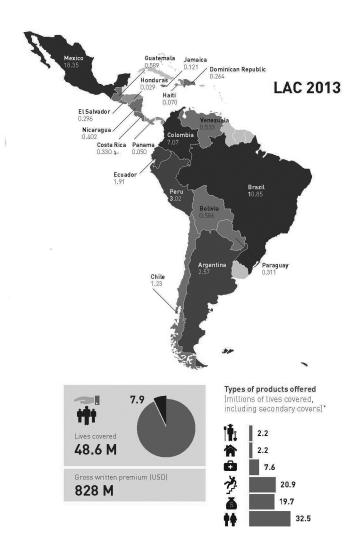






*see legend on page 42





The products currently offered vary in the types of risks insured, product features, process design and delivery. The table below presents some of the ways microinsurance has been designed and delivered:

Table 3

Table 3	
Risk Covered	LifeHealthPropertyAgriculture
Indemnification	 Monetary Barter Combination
Structure	Indemnity Index-based
Supplier	Commercial insurance companiesNGOsMicrofinance Institutions
Delivery	 Agents Retailers Mobiles Service providers Automatic Subscriptions
Sources of Funding	 Fully consume financed Subsidized by the supplier Subsidized by the donors Subsidized by government

Providers' communication material also gives a sense of what microinsurance is. A provider's choice of words, positioning of the company's values and proposition as well as how it describes the target customers all together conveys what the provider views as microinsurance. An example is from ParaLife whose website homepage⁶ presents its value proposition to its customers in this fashion:

⁶ www.paralife.com/eng/home.html

"A Commitment to Serve. ParaLife offers financial protection solutions for individuals and families in the low income and poor sectors, for micro entrepreneurs and for people with disabilities.

We work to improve the quality of life for the underserved majority by providing products and services that are understandable, affordable and easily accessible."

From ParaLife's perspective, microinsurance is insurance services for those who face obstacles, such as communication, relevance, affordability and reachability, in obtaining financial protection.

From simple credit life to complex products involving the latest technology, microinsurance, just like traditional insurance, has the potential to address the precise needs of a provider-defined set of consumers through the design of the product, process, communication and service.

ALTERNATIVE TERMINOLOGY

Some providers of microinsurance have pointed out that there may exist a stigma associated with the terms "microinsurance" and "insurance for the poor" in some markets. Prospective customers may be indignant at being labeled "poor" or "low-income". Some providers have coined alternative terms for the products they provide. These examples include "affordable insurance" and "mass insurance." Other providers simply bypass the need for a terminology altogether. Pioneer Insurance in the Philippines offers the promise for customers to "Protect yourself, your family, your employees or group members with insurance coverage at minimal cost." ManuLife in Vietnam names one of its microinsurance offerings "My Companion." CIC in Kenya markets its microinsurance products with product names such as "M-Bima" for insurance sold via mobile phones and "CIC Biashara Salama," which it describes saying "The Microsolution Plus Insurance Package is sold through Micro Finance Institutions."

POTENTIAL OF MICROINSURANCE IN AN ENABLING ENVIRONMENT

It is important to remember that microinsurance is a financial protection mechanism within the broader arsenal of microfinance. Often described as a safety net, it is a preventative mechanism against a further descent into poverty. Microinsurance alone can neither alleviate poverty nor improve the wealth of the low-income population. It is also important to remember that, like mainstream insurance, this financial protection can only be provided on a sustainable basis in an environment that meets these pre-conditions:

- sound and sustainable macroeconomic and financial sector policies that inspire confidence
- a well-developed public infrastructure to allow sustainable and efficient delivery
- effective market discipline in financial markets that offers sufficient consumer protection
- mechanisms for providing an appropriate level of protection (or public safety net)
- efficient financial markets.⁷

Without meeting these pre-conditions, a microinsurance product is often a short-lived project or one that needs to perpetually depend on donor resources.

CONCLUSION

While from the regulatory perspective, defining "microinsurance" is important as a way to establish a parameter around the products to which specific rules apply, this term "microinsurance" may merely be a sector player's way for communicating its objectives. A definition, whatever it might be, conveys the intention to extend insurance services and addresses the needs of the market it intends to service. This definition must resonate with the intended customers. Regardless of whether this definition signals the noble intention to protect the poor, it needs to call for innovation in product, service and delivery.

⁷ IMF Country Report No. 12/341

Of course, the mention of microinsurance also raises many questions. How can microinsurance be provided in a way beneficial to low-income households? Can microinsurance be provided profitably and sustainably? How do we develop and reach the market? What are the roles of actuaries in this space? How are actuaries confronting challenges in this market (e.g. limited experience data)? And, how do traditional actuaries get involved?

Some of these questions have been answered and others are being investigated in the research conducted by, for example, the Microinsurance Learning and Knowledge (MILK) Project and the ILO's Impact Insurance Facility. From the demand perspective, these research efforts examine aspects such as how does insurance compare to other financial shock-coping mechanisms for the poor, impact of microinsurance on low-income households and the value of microinsurance for these households. From the supply perspective, these research efforts examine the one question that insurance providers continuously ask: is microinsurance profitable? The data available is limited but increasing, with much of the information available being anecdotal. However, contributors to the microinsurance sector continue to be optimistic about the role microinsurance can play in the financial well-being of low-income people. Just like the seat-belt campaign took more than a decade to drastically improve belt use and save lives, advocates of microinsurance believe that by increasing awareness and sharing lessons, more low-income households will adopt insurance as a finance-stabilizing mechanism.

The sections that follow will address many of the common questions about microinsurance and present experiences from around the world.