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INFRASTRUCTURE

Innovative Approaches to Overcome Utility Theft and Tariff Delinquency

*Luigi Manzetti, Jaime Millán and Carlos Rufín**

Background

The privatization of public utilities has gone a long way over the past fifteen years and Latin America has been a pioneer in this regard. However, the viability of private utility ownership is threatened by serious problems of theft and delinquency, as regulators and governments face intense pressures to hold utility rates down. Sustaining privatization over time has proven to be a challenge extending well beyond the consummation of the transfer of ownership from public to private and requires addressing many of the institutional

▶ p.2

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FINANCIAL MARKETS

Ensuring Insurance Market Development in Latin America and the Caribbean: Stylized Facts and Findings

*Pietro Masci, James Sylvester, Luis Tejerina and Marco Velarde**

Introduction

This article presents some stylized facts about the development of insurance market. It is part of a research undertaken by the Inter-American Development Bank, the Regional Association of Insurance Companies (*Fundacion Interamericana de Empresas de Seguros, FIDES*) and the Regional Association of Insurance Supervisors (*Asociación de Supervisores de Seguros de Latinoamérica, ASSAL*), which relies on a survey of insurance participants at the regional and national levels to analyze various economic and non-economic variables to identify their impact on the

▶ p.6

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◀ p.5 Overcoming Utility Theft

nonpayment can, to a significant degree, be addressed through adequate strategies. Such strategies should be tailored to local realities in order to have a greater chance of success in overcoming transaction costs in the social, political, and cultural realms. Thus, adopting the models of developed countries uncritically is bound to fail since the transaction costs in developing countries are very different and higher. The experience of AAA in Colombia is a good example of the predicaments that utility companies face in poor and politically volatile environments and how they can be addressed in a positive manner. ■

◀ p.1 Insurance Market

effectiveness of insurance market in terms of access of people to insurance services and effective delivery of the service itself. In this respect, the research is part of a larger objective of expanding access of the population to financial services.

The survey represents the first attempt to systematically analyze the insurance market in Latin America and the Caribbean. The research effort assumes a long-term view of insurance with emphasis on variables and factors that influence its development. It brings to the forefront the most important issues for the development of insurance markets in the region and permits a more accurate formulation of specific policy recommendations for ensuring the effectiveness of insurance markets.

The most relevant finding is that the factors that improve the effectiveness of insurance markets are information about products, better enforcement, supervision, and external conditions.

The Role of Insurance

The German poet Bertolt Brecht once wrote that "*you don't need to pray to God any more when there are storms in the sky, but you do have to be insured.*"[1] In economic terms, insurance refers to the pooling mechanism used to reduce the downside of risk through the reallocation of resources from good to stormy states of the world:

Insurance reimburses an individual for some or all of a financial loss that is linked to an unpredictable event or risk. This protection is accomplished through a pooling mechanism whereby many individuals who are vulnerable to the particular risk are joined together into a risk pool. Each person pays a small amount of money, known as a premium, into the pool, which is then used to compensate the unfortunate individuals who do actually suffer a loss. Insurance reduces vulnerability by replacing the uncertain prospect of large losses with the certainty of making small, regular premium payments.[2]

In its more familiar form, insurance is provided through a policy from an insurance company. To the extent that the insurer successfully facilitates such a process (and is able to spread the risks which it takes on), the insured can undertake riskier activities and better risk management. As such, insurance markets are a crucial component of economic growth and stimulate the development of capital markets.

Status of the Insurance Market in Latin America and the Caribbean

To date, insurance markets in Latin America and the Caribbean have been relatively underdeveloped. There are large differences among the countries of the region despite evidence of growing private demand by insurers and related agents for a solid insurance sector. Premium volume totaled about 2 percent of the region's gross domestic product (GDP) (compared to Europe's 7 percent, Asia's 4 percent, and the United States' 8 percent) and just 1.6 percent of insurance business worldwide (Figure 1). Moreover, the business is concentrated in just a few countries. Over 90 percent of premiums are written in Argentina, Brazil, Chile, Colombia, Mexico, and Venezuela.[3] Not only there is room for more insurance penetration, but also for a better, more effective insurance market. Recent evidence demonstrates that insurance products in Latin America and the Caribbean are deemed too complex for consumers, that they are unreliable in the processing of claims, and that they are too expensive.

Table 1 shows recent data collected from household surveys about access to health insurance, a simple average of 7 countries for which information is available shows that only 8 percent of households stated that they have some type of private health insurance (the average for poor households is 2 percent). Compared to developed countries such as the United States (68 percent) and Australia (45 percent) these numbers highlight the relative underdevelopment of the region's financial markets.

(1) This is from the play *The Mother*, scene 10, spoken by the character Pelagea Vlasova.
(2) Churchill, Craig, Dominic Liber, Michael McCord, and James Roth. 2003. Making Insurance Work for Microfinance Institutions: A Technical Guide to Developing and Delivering Micro-insurance. Geneva: ILO.
(3) Swiss Re. 2004. Exploiting the Growth Potential of Emerging Insurance Markets. Sigma 5.

Figure 1: Latin America by comparison with other emerging markets and the world

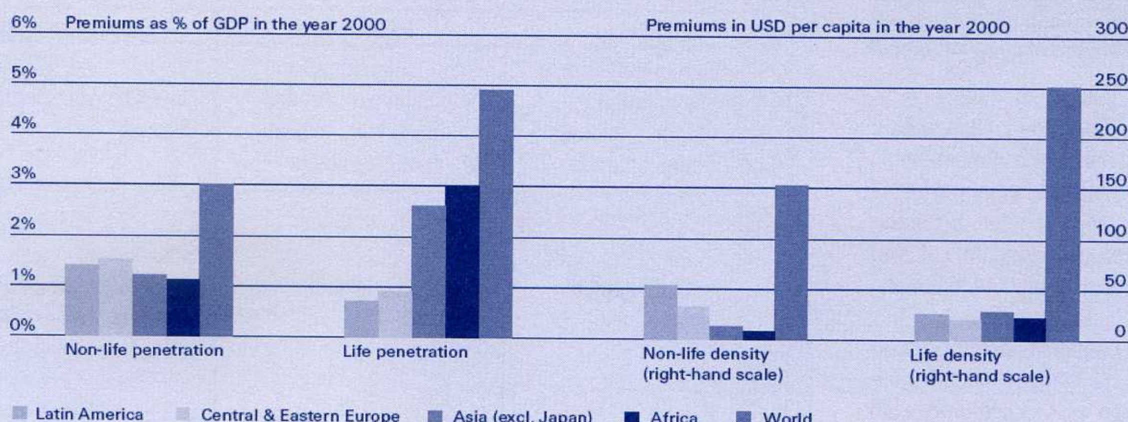


Table 1: Percentage of LAC households with access to private health insurance

	Non-Poor	Poor	Total
Ecuador	9.6%	1.0%	6.8%
Guatemala	9.5%	1.8%	6.0%
Panama	3.8%	0.1%	2.8%
Nicaragua	3.0%	0.6%	2.1%
Paraguay	13.1%	1.3%	10.0%
Peru	8.5%	0.7%	4.9%
Dominican Republic	27.8%	10.9%	22.8%
Average	**11%**	**2%**	**8%**
Australia			45%
USA			68%

Insurance Markets, Economic Growth, and Financial Sector Development

The insurance business has not been regarded as critical to the contributions that the financial sector can make to economic growth and development.

Insurance and Economic Activity

The term "*underwriting*" originates in one of the oldest current insurance markets in the world: Lloyd's of London. Lloyd's was originally a coffee shop. Commercial shipping companies that sought insurance for their vessels would place the details of the ship and its cargo on a chalkboard. Interested individuals with the funds to insure risks examined the board and wrote their names under the ship's details (hence *under-writing*), indicating that they had assessed the risk and were willing to take it (Churchill et al. 2003). This risk-pooling concept that defines insurance makes it an efficient means for protecting against certain types of risk, such as those at sea, but it is also a source of complexity in delivering and designing insurance products.

The existence of insurance markets facilitates economic activity. This follows directly from the idea that risk-averse individuals are willing to pay at least a fair premium to ensure compensation should a specific event occur in the future. An insurer supplies a contract, which details future payments under specified circumstances. Such a contract is favorable to the insurer, insofar as the premium paid is at least as high as the expected payment to the policyholder (adjusted for the probability of occurrence). Premiums charged to all policyholders are redistributed to those entitled to payments. For each signed policy for which the insurer may incur losses, the law of large numbers indicates that when the number of contracts increases and the policy is appropriately priced—so that the premium equals the expected loss of each individual contract—the insurer gains non-negative profit in the long run and is motivated to undertake the risk and promote economic growth and activity.[4]

Insurance markets take many forms, because the motivation for buying insurance differs between agents. Insurance policies can be divided into three classes: life, business, and property:

- For life insurance, the annuities component is a contract that details payments at specific dates, as long as the policyholder is still alive. Life insurance contracts can also entail a fixed payment to specific parties in case of the death of the policyholder.

▶ p.8

(4) Moss, David. 2003. When All Else Fails: Government as the Ultimate Risk Manager. Journal of Risk and Insurance 70, no. 4: 794–96.

◀ p.7 **Insurance Market**

- A business insurance policy is a method of sharing and reallocating risk between or within businesses. Business insurance arrangements entail credit-risk transfer between banks and insurers, reinsurance, and direct insurance contracts between insurers and businesses.
- Property and casualty insurance consists of a wide range of insurance policies sold to individuals who wish to protect themselves against property- and health-related losses. The market for such contracts is large, and buyers of policies tend to have little bargaining power. It follows that the variety of policies available is often limited to a few standardized contracts.

Insurance markets are particularly beneficial for economic activity in developing countries because households in these areas are exposed to high risks, which have important welfare and efficiency consequences. Table 2 shows how, in the absence of formal insurance markets and instruments, risks related to the reduction and changes of income sources and of asset management lead to the suboptimal solutions of self-insurance or informal insurance.[5]

These risks, or "*chances that an event will cause damage or loss*",[6] are associated with idiosyncratic incidents, such as illness, theft, or unemployment, or with economy-wide events, such as a drought or recession. It has long been acknowledged that these shocks have important implications, not least for the poor, including short-term effects on consumption and nutrition, resulting in calls for the establishment of safety nets and other mechanisms.

These risks lead to changes in the portfolio of income sources and asset management, and in some cases they may lead to survival strategies that result in an inefficient allocation of resources. Typical strategies for survival are indicated in Table 3. Therefore, expanding insurance provision for the poor stands as an important instrument with substantial long-term welfare benefits.

The lack of formal insurance mechanisms leads to inefficient economic solutions that are also inequitable. Therefore, the development of insurance markets is justified on efficiency grounds and also given equity considerations. In this respect, the lack of protection for natural disasters is particularly harmful to lower income persons.

Table 2: Risk Management and Coping Strategies

Strategy	Examples	Shortcomings
Managing and reducing risk faced via changes in portfolio of income sources	Crop Diversification; Specialization on low risk activities; migration of some members	Sacrifice of expected income
Asset Management	Savings and self insurance	Lack of suitable savings assets (lumpiness, insecurity); Focus on liquid, less productive assets; Long building time; Covariance in asset prices and income
Informal insurance	Reciprocal gift/loans from friends and relatives	Incomplete protection; vulnerability to covariant risk
Market-Based	*Insurance*	*Typically not available*

Table 3: Survival Strategies

Strategy	Examples	Shortcomings
Changes in Portfolio of Income Sources	Children's Labor	Sacrifice of Human Capital
Asset Management	Selling/Pawning of real productive assets	Long time to rebuild them up
Informal Insurance	Charity	Incomplete protection; Vulnerability to covariant risk
Market-Based	*Bank Loans for Consumption Credit*	*Typically not available*

(5) Tables 2 and 3 come from Dercon, Stefan. 2004. Insurance for the Poor. Draft, Inter-American Development Bank, Washington.
(6) Churchill, Craig, Dominic Liber, Michael McCord, and James Roth. 2003. Making Insurance Work for Microfinance Institutions: A Technical Guide to Developing and Delivering Micro-insurance. Geneva: ILO.

Indeed, they are the ones who suffer most as a result of earthquakes, hurricanes and other such events. As Sen states,[7] the key point is that insurance allows everyone, and particularly those individuals and entities that are more "*excluded*", to improve their economic potential and become less dependent on welfare programs. North[8] indicates that the development of maritime insurance in the fifteenth century was a major factor in increasing trade in early modern Europe.

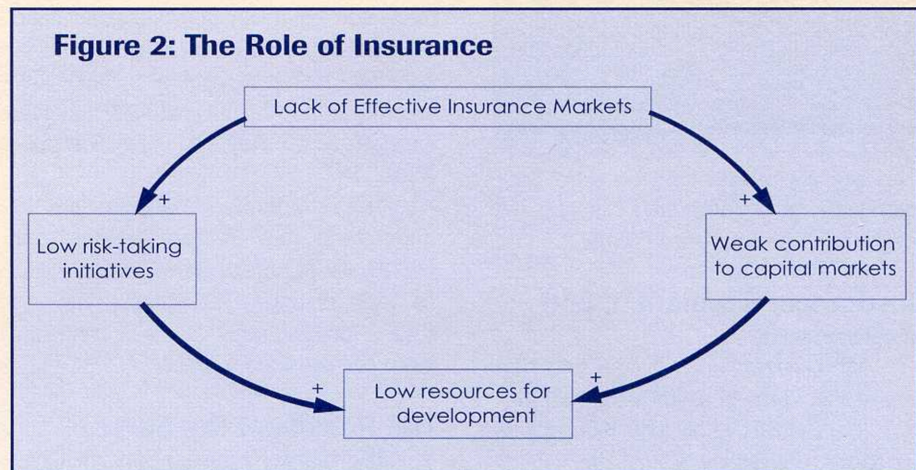
Insurance and Capital Markets

The role of insurance is not only complementary to productive activity but also very significant for financial sector development. Insurers enter the market with equity capital and issue insurance policies, which are a form of debt capital. The funds raised by issuing both types of capital are invested, until needed to pay claims. In this context, an effective insurance sector is not only relevant for productive and economic activity and for facilitating the sharing of risk, but also plays a crucial role in the investment of savings.

Insurance companies as institutional investors in corporations not only aid capital allocation but also further enhance their investments through increased levels of monitoring. Capital markets can also be a driving force for and benefit from the development of institutional investors. Insurance companies have a liability composition that is mostly long term, with liquidity needs, and constitutes a natural complement for capital market development. Insurance companies have a large availability of cash (linked to the premium paid) that is partly invested in less liquid instruments such as government and corporate bonds, equities that are all typical instruments of a developed capital market. In the absence of capital market instruments, insurance companies would invest in government bills and bonds with little diversification and benefit to capital market development.

Figure 2 illustrates the central role of insurance. In the context of financial market development, insurance services play a crucial role in risk management, in allocating savings, and in capital market development. The development of sound, modern, and open insurance markets is an essential component of financial reform and capital market development in emerging markets.

Figure 2: The Role of Insurance



Functioning of Insurance Markets: Insurer Risk

Although the primary purpose of insurance is to be able to meet claims at all times, insurers are exposed to a number of risks. Solvency risks are labeled technical and investment risks. Technical risks consist of two types of risk: underpricing and underprovision. Underpricing refers to the situation in which the insurer attracts buyers by setting excessively low premiums that do not cover the expected claims. Technical provisions represent the largest share of insurers' debt, and they are a measure of its obligations to policyholders. In the case of underprovision, the technical provision is inadequate to meet the obligations.

Investment risk is generated by the insurer's role as a financial intermediary and reflects the fact that the insurer is exposed to insolvency risk. The risk of insolvency generates a market failure when the market price does not reflect the insolvency risk. In a world of perfect information, economic theory proposes that competition and rational behavior ensure that the risk should be reflected in consumers' willingness to pay and, therefore, induce efficient risk management among insurers. To correctly assess the insurer's solvency, however, the buyer should be equipped with efficient data on the joint distribution of loss claims, the return on the insurer's asset portfolio, and the technical reserves that the insurer will hold at the time of the payment of benefits. In practice, this information is costly or unavailable for buyers. It is thus plausible to think that they cannot fully assess the financial strength of their insurer and thereby the quality of the insurance contract. In addition to technical and investment risks, the insurer is exposed to the risk of default by a partner (e.g., reinsurer), risk of mismanagement, and systemic risk.

The discussion above points to two important aspects of asymmetric information that create situations of market failure: moral hazard and adverse selection. Moral hazard refers to situations where one side of the market cannot observe the actions of the other. For this reason, it is sometimes called a "hidden action problem."[9] Adverse selection occurs when a negotiation between two people with different amounts of information—that is asymmetric information—restricts the quality of the good traded.

▶ p.10

(7) Sen, Amartya. 1999. Development as Freedom. New York: Anchor Books.
(8) North, Douglass. 2005. *Understanding the Process of Economic Change.* Princeton, N.J.: Princeton University Press.
(9) Varian, H. R. 2002. Intermediate Microeconomics: A Modern Approach, Sixth ed. New York: W. W. Norton.

◀ p.9 *Insurance Market*

This typically happens because the person with more information is able to negotiate a favorable exchange.

Insurance, Regulation, and Supervision

Moral hazard and adverse selection are typical forms of asymmetric information that lead to insolvency risk as well as to the underprovision of the "good" of insurance. They justify the need for *government intervention* in insurance markets in the form of the establishment of laws, regulations and supervision, and the provision of insurance.[10] In addition, the importance of insurance regulation and supervision is reinforced by the integration of world insurance markets, which requires an adequate regulatory framework in each jurisdiction.

As a comparison, excessive risk taking in banking is driven by the idea that unsophisticated depositors do not price the risk that the bank is taking. In the insurance business, the unsophisticated counterparts are the buyers of the insurance who cannot properly assess an insurance company's financial strength in relation to its prices. Therefore, one can assume that insurers perceive that premiums do not reflect the risk that they, as insurers, take or the insolvency risk. Shareholders of insurance companies may have an incentive to take excessive risks, because their capital is not at risk in case of insolvency. This moral hazard situation is enhanced by the fact that the government can establish guarantees in case of insolvency. Under these circumstances, the policyholders have few incentives to consider insurers' financial strength when they buy insurance policies.

In this context, it is important to understand that the perceptions that users have of regulation and supervision as well as capital adequacy have an impact on the evolution and development of insurance markets.

The Results of the Survey

The survey undertaken in Latin American and the Caribbean provides very rich material for analysis and research and for policy recommendations.

The main findings of the research are listed below.[11]

The survey of the supervisors and of the national associations of insurance companies undertaken at the regional level shows that insurance markets operate more effectively in countries with better enforcement and supervision, and favorable external conditions.

The survey of companies and individuals in Peru shows that the knowledge of insurance products is concentrated in the upper end. It also shows that the vast majority of firms and individuals use inefficient surrogates for insurance and do not have the opportunity to use more efficient insurance mechanisms that would spur economic activity.

Conclusions

The stylized facts and the findings of the survey indicate that insurance makes a very significant contribution to financial sector development and tc economic growth and development and has the function to provide opportunities to those at the *bottom of the pyramid*. Therefore, there is a need fo additional research on the factors tha enable the insurance industry to expanc and be more effective. The public policy significance in the issues related to the development of insurance markets ir Latin America and the Caribbean relates to identifying to what extent the government needs to intervene to promote the insurance business in order to favo access to insurance services and avoic underprovision and financial disruptions and to ensure welfare gains.

The analysis of the surveys reveals that information about the availability o insurance products is a key factor. Ir addiction, insurance markets operate more effectively in countries with bette supervision, enforcement, and favorable external conditions.

These key findings need furthe research and diagnostic at the nationa and local levels together with a refinement of the measures of insurance effectiveness that the survey has developed. At the same time, the findings prompt policymakers, other importan players such as supervisors and the industry, and also the Inter-Americar Development Bank to formulate anc implement specific activities that focus first and foremost, on relaxing the constraints that have a negative impact or information, supervision and enforcement as well as political and economic stability to favor an effective insurance market that contributes to growth anc development in the region. ■

(10) OECD. 2003. Policy Issues in Insurance: Insurance and Expanding Systemic Risks. vol. 5. Paris: OECD.
(11) For more information see http://www.iadb.org/sds/IFM/publication/gen_407_3231_e.htm