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## INFRASTRUCTURE

### Innovative Approaches to Overcome Utility Theft and Tariff Delinquency

Luigi Manzetti, Jaime Millán and Carlos Ruffin\*

#### 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

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\*Luigi Manzetti is Associate Professor at the Department of Political Science, Southern Methodist University. Jaime Millán is Principal Economist at the Infrastructure and Financial Markets Division, IDB. Carlos Ruffin is Assistant Professor at the Management Division, Babson College.



## 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 (*Fundación Inter-*

*americana 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

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\*Pietro Masci is Division Chief, Infrastructure and Financial Markets Division, IDB. Luis Tejerina is an Economist at the Poverty and Inequality Unit, IDB. James Sylvester and Marco Velarde are consultants.



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shortcomings that were behind the poor performance of government own utilities. This article describes the successful experience of a privatized water utility working in a hostile environment in Colombia.

The theoretically attractive models of private ownership and independent regulation, following the experiences of developed countries and especially of the United States, have not proven to be robust when applied to emerging markets. In theory, the profit motive would lead privately-owned utilities to crack down on theft and to improve collections; in turn, improved performance and the efficiency gains brought about by private ownership and regulatory incentives were to reduce utility costs sufficiently to allow the gradual reduction of rates (other things, such as fuel

prices, being equal). Furthermore, fiscal constraints were supposed to limit the amount of subsidies that governments in the region could provide for utility service, leaving no alternative to increasing collection levels as well as rates when costs went up. All of this would make it easier for private utilities to obtain adequate resources to finance not only their current operations but network maintenance and expansion too. The reality, however, is that this virtuous circle has often stalled in practice as companies face an array of transaction costs that often are absent or have little impact in developed countries.<sup>1</sup> In fact, the historical precedent of private utility supply in Latin America reflects a pattern of indirect utility expropriation by keeping rates below capital replacement levels. Weak political and legal checks and balances provide fertile ground for the executive branch to act unilaterally and alter utility rates in order to maximize electoral goals. Likewise, much literature developed on the experience of industrialized countries is completely inadequate in addressing the issue of theft and delinquency that is endemic in most developing countries.

This article examines the problem of theft/nonpayment in the aftermath of privatization. It analyzes the innovative experiment of Sociedad de Acueducto Alcantarillado y Aseo de Barranquilla S.A. (water and sanitation, AAA henceforth), in Northeast Colombia. We chose a private distribution company because it is at this level that prices are regulated and firms are most affected by theft, nonpayment, and the government's unwillingness to increase rates. Moreover, AAA worked in an adverse environment marked by high poverty and political violence. However, precisely because of the predicaments it faced AAA's innovative approach toward the culture of nonpayment and losses makes it an interesting case for the development of possible solutions.

## Addressing Theft and Nonpayment Problems

AAA is a mixed company whose ownership is divided among a private foreign (Spanish) operator (60 percent), the municipalities (35 percent), and small private domestic investors (5 percent). After the initial privatization it began to progressively incorporate water and sanitation companies that had been managed by smaller municipalities.

### Initial Conditions

At the time that Barranquilla and other municipalities decided to involve foreign investors in the management and ownership of water supply and sanitation, existing companies were in a state of disarray and beset by political, social and cultural problems as well as problems related to the companies themselves and to theft and nonpayment of services.

### Political problems

The primary cause of the situation faced by water companies was that city politicians, who controlled local companies, used them to reward for political gain. Mayors were practically independent from central government controls and frequently bypassed the law. As a general rule, the smaller the town, the more arbitrary and corrupt the power exercised by mayors. Companies were overstaffed with people who often owed their job to political loyalties rather than technical expertise. Politicization also fueled high employment turnover at all levels. National government subsidies earmarked for the expansion of water services to poor neighborhoods simply failed to reach the people for whom they were intended. Moreover:

- Contracts were manipulated for political gain.
- Staffing depended on quotas dictated



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Juan José Durante

ISSN 1811-2234

1300 New York Ave, N.W.

Washington, DC 20577

Stop W-0508

Phone: 202-623-2617

Fax: 202-623-2157

Email: [sds/ifm@iadb.org](mailto:sds/ifm@iadb.org)

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[1] Williamson, Oliver E. (1985), *The Economic Institutions of Capitalism* (New York: Free Press); North, Douglass Cecil (1990). *Institutions, institutional change, and economic performance*. New York: Cambridge University Press; Dixit, A. (1998), *The Making of Economic Policy: A Transaction-Cost Politics Perspective* (Cambridge, MA: MIT Press), and Ayala, Ulpiano, and Jaime Millán (2003). "Colombia: Coping with the Reform Crisis," in *Keeping the Lights On*, Jaime Millán and Nils-Henrik M. von der Fehr eds. (Washington, D.C.: Inter-American Development Bank).

- ed by political criteria.
- High turnover of employees mirrored the political cycle.
- Investments were insufficient and politically arranged.
- State and city government entities failed to pay their bills.
- Politicians tended not to pay their personal utility bills and allowed their supporters to do likewise.

#### *Social and cultural problems*

A large number of bills affecting government agencies, the wealthy, as well as the poor, went unpaid generating huge losses. People were used to a culture of nonpayment for a variety of reasons.

- People regard water and sanitation services as entitlements.
- Large numbers of refugees continue to flee areas rife with guerrilla warfare and have precarious means of subsistence.
- Class and racial diversity makes it difficult to create a sense of community.
- Extreme levels of poverty (60 percent) and indigence (19 percent) within the Barranquilla population.

#### *Company conditions*

Lack of investments and proper maintenance resulted in facilities in disrepair, which led to increases in infectious diseases as people came to depend more and more on poorly sanitized water. Other problems plaguing the service providers included:

- Service quality was very poor and deteriorated steadily.
- Customer service was nonexistent and companies had a bad public image.
- Low coverage levels.
- Poor labor productivity.
- High financial losses.
- Poor revenue collection.
- Extreme dependence on government financing to pursue investments.
- Poor accounting procedures and customer data.

#### *Theft and nonpayment*

Losses resulted not only from a pervasive culture of nonpayment, but

also from the lack of company monitoring and law enforcement, which contributed to making payment evasion and theft endemic problems. Typical problems included:

- Illegal connections.
- Tampering with meters.
- Bribes to company employees willing to underreport consumption levels.
- Former employees offering to tamper with meters for a fee.

#### **AAA Response**

To tackle these multiple problems, AAA tried an approach that involved both consumers and the local government in developing viable, sustainable solutions. The company developed a social responsibility program that could show customers that they could rely on a much-improved quality of service and customer attention if they were willing to pay according to their income level. AAA revamped its database and developed appropriate strategies to identify customers that were most likely to be difficult. To enlist cooperation in poor areas, the company identified community leaders who could serve as intermediaries between the company and its customers. Intermediaries would provide inputs on how to devise company strategies based upon the specific needs of the communities they represented. In turn, companies and intermediaries would create community groups to educate people on the value of the water service and the importance of paying for it, and also police the area to reduce fraud. Local subcontractors with a good knowledge of the targeted areas were hired to overcome resident's skepticism.

AAA developed a variety of responses that focused on following priority areas: service improvement, community upgrading, customer relations and anti-fraud activities.

#### *Service improvement*

- Major investments were made to substantially upgrade the quality of water supply and sanitation service and increase the number of people covered.

- Different pay rates and installment procedures were created according to the client's ability to pay.
- Billing procedures were made clear so that people could easily understand them.
- Gifts and discounts were made available for people who paid on time. Payment procedures were simplified, which included the development of mobile units that would allow customers to pay without leaving their neighborhoods.
- Personnel training was updated periodically.

#### *Community upgrading*

AAA invested in community activities to show that it was not just another business but that it had a stake in the well-being of the neighborhoods where it provided service. Communities seemed particularly interested in receiving support for their sport activities. AAA also provided funds for educational and social activities at the municipal level.

#### *Customer relations*

AAA made an effort to improve its public image by revamping customer relations. The company developed a publicity campaign to show that it sold water at a very affordable rate when compared to gasoline and soft drinks. Moreover, individual attention to customers was made a priority. Phone hotlines to report malfunctions and complaints were created and well-known and trusted community members were recruited. The company persuaded customers who previously had avoided payments or stole water to regularize their service by dropping previous fines and legal actions. This resulted in an appreciable increase in paying customers.

#### *Anti-fraud activities*

Besides creating incentives to promote community cooperation, AAA also stepped up its anti-fraud efforts. As noted, the customer database was



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updated to have a clear idea of who was getting the service but did not pay. Meters were better protected against tampering. Corrupt employees were fired and company inspections of meters and important installations were made on a more regular basis. AAA also launched an educational program to promote self-policing of water facilities because gangs were stealing pipes, which negatively affected both the company and honest customers. Legal actions against offenders were coordinated with the police and the municipalities.

### Results

The initiatives described above improved AAA's performance appreciably. Slowly but steadily, the nonpayment culture gave way to cooperation. Revenue collection increased steadily in the first seven months of each year between 2000 and 2004. On-time customer payments went from 45 percent in January 1997 to 72 percent in May 2004, a net increase of 27 percent. The revenue collection index, which averaged 50 percent in January 2002, rose to 87 percent in July 2004. The positive trend affected not only those living in slums but also national and local government agencies, which prior to privatization were notorious for not paying their bills. General improvements in all indicators were observed in the towns of Puerto Colombia and Soledad despite the fact that their services were privatized at different points in time.

Public opinion polls mirror these improvements. As time went by people recognized AAA's effort to improve service quality and customer relations. According to AAA's own surveys, 80 percent of the people asked graded the company's service as excellent, 70 percent rated garbage collection as good, and 70 percent described billing procedures as clear and understandable. One independent survey confirmed much of these findings. According to the

National Bureau of Standards' poll, respondents consistently rated AAA above 4.0 on a scale of 0 to 5 (with five being the highest mark) with regard to: i) being a modern company; ii) being a company that improves continuously; iii) being responsible; iv) being concerned with the community; v) providing ample coverage; and vi) being a leader in the business community.

A further indicator that customers regarded AAA to be a better utility operator than the former city-run provider comes from the experience in the town of Soledad. In this case, people mobilized so that water and sanitation services would be provided by AAA rather than the inefficient local municipal provider. In Soledad, according to the AAA representative, 6,000 people demonstrated in favor of privatization.

In spite of these improvements, the representative of AAA stressed that important problems persist. Although the company's collaboration with the municipal authority in terms of coordinating planning activities has improved, political corruption and interference in company operations remains the number one problem, particularly at the local level. Politics still has a negative impact on the way the government uses its scarce resources, which results in inefficient investments and waste. At the company level, management has to speak clear to customers about the positive impact that their services bring to the community on a sustained level because nonpayment and fraud, although abated, are still very much a problem. Put it differently, negative attitudes can change only if positive results are perceived over a long period of time.

### General Lesson: Utility Reform Must Provide Quick and Tangible Benefits for Users

When analyzing the problem of nonpayment and theft, the first lesson rests on the issue of *service delivery*. AAA employed different strategies, all of which had one element in common. The company placed great emphasis on appreciably improving both the quality and the availability of service within a

relatively short period of time. Unless there is a clear and tangible commitment in this regard any utility reform will lack the necessary credibility to win over the public and will fail. In other words, even the poor are willing to pay when they are provided with good quality service, but companies must first convince customers through quality improvement to overcome cultural biases and hostility resulting from their experience with government-owned utilities. The goal of service improvement can be integrated by a variety of efforts (listed below) that can enhance the success of reforms.

### Community-based approaches pay off

The AAA experience shows that substantial improvements can be made in reducing nonpayment and theft by designing innovative approaches involving the utility provider, community representatives, and the government to foster cooperation and trust. The Colombian experiment is consistent with those reported by the U.S. Agency for International Development through pilot projects in Brazil, the Philippines, and South Africa.

Unlike traditional approaches that rely on standard methods of nonpayment and fraud reduction based upon experiences from developed countries, the Colombian response was tailored to address the cultural, historical, and political characteristics of the areas in which they had to work. To deal with these situations, the companies developed strategies that incorporated both community organizations and government representatives. The basic assumption was that a winning formula could be found only if the predicaments of the local market were understood and addressed. The innovative part of the approach recognized that:

- Community-based organizations needed to be involved and had to be treated as stakeholders.
- Communities had to recognize the benefits of cooperation as opposed to the status quo. This meant showing that paying for services rendered would improve community as well as

individual well-being, in terms of health, safety, social and cultural activities, and economic development.

A key element of this approach was identifying an intermediary that could bring the consumer and community together with the utility company and the government. This was deemed essential to establish a sense of trust within the local community and get it to cooperate.

Intermediaries were chosen based upon the respect they could elicit within the community, their communication skills and their ability to deliver community compliance. The Catholic Church played a pivotal role in this regard in some cases. Intermediaries were responsible for articulating community needs and problems during program design. Intermediaries were also trained by the utility and government representatives in order to perform the tasks assigned to them within the program. At the community level, intermediaries were responsible for explaining how the program would work and set up self-policing functions.

Within this approach, AAA made special efforts to establish an environment of social responsibility by companies and communities alike where voluntary cooperation would make the need for policing and sanctions less important over time. Through a variety of town meetings and training programs companies engaged communities and government representatives by delivering a persuasive message. The sales pitch was that AAA, the communities, and the government were all in the same boat. AAA recognized that it could do well only if customers were getting better service, which then would allow companies to expand service and invest in the community. In this regard, AAA spent much effort in running workshops to educate people about the importance of paying to ensure good service. For its part, the government had to come up with the necessary subsidies to help companies offset infrastructure costs and low rates. Municipal governments were also asked to resolve land tenure issues and legalize squatters' residency status.

### ***The need to improving the life of the community***

Decades of neglect and poor service create strong adversarial feelings toward the utility provider. This is particularly true in poor areas that are traditionally the most neglected. The Colombian experience in trying to overcome the deep seated cynicism of poor customers is quite interesting. To gain credibility and trust, AAA made substantial efforts to show its commitment to good corporate citizenship by:

- Investing in education and parks.
- Supporting local soccer teams.
- Investing in community associations.
- Supporting nongovernmental organizations (NGOs) operating at the local level.
- Increasing local employment.
- Providing educational programs on conservation and safety procedures.
- Promoting the legalization of residency.

### ***Making tariffs more affordable and easier to pay***

The Colombian experience shows the importance of providing tangible improvements in customer service. The faster these improvements take place, the greater the chances that theft and nonpayment trends will be diminished appreciably. This task is not easy, but can be accomplished through a variety of means such as:

- Providing flexible tariff rates.
- Providing heavily discounted costs that poor communities can afford.
- Creating incentives for customers to pay on time.
- Providing easy means for customers to pay their bills.
- Improving quality and accessibility of service.
- Improving customer service and billing procedures.
- Dropping fraud and theft charges when clients start to pay their bills.

These approaches can also be supported by more conventional ones such as:

### ***Making utilities harder to steal and easier to monitor***

The Colombian experience proves that investing in improved monitoring

mechanisms pays off, particularly in the following areas:

- Installing meters that are difficult to tamper with.
- Placing meters in visible places where they could be easily monitored.

### ***Fighting illegal activities***

Cracking down on illegal activity remains a difficult task because of the lack of a strong rule of law and policing system. Nonetheless, company managers emphasized that it is important to show to employees and customers alike that the utility operator is no longer willing to tolerate illegal activity and is ready to take the necessary steps to confront the offenders by:

- Firing corrupt workers.
- Terminating illegal connections.
- Cooperating with the police and local communities to identify and prosecute offenders.
- Launching media campaign explaining that illegal activities harm both the company and the community, exposing wrongdoing, and informing about the legal consequences of fraudulent behavior.

Within this overall strategy, company executives stressed that the "carrot" (persuasion) is far preferable to the "stick" (sanctions), although both must be adopted to have a balanced approach. This is because monitoring and policing costs will always be higher than programs geared at voluntary cooperation. In the case of AAA, the company estimated that an investment of US\$1million in community programs was going to yield much better results in terms of cooperation from the public than US\$10 million spent by going after those who did not pay or engaged in fraudulent behavior. Courts often take a long time to render decisions and their costs are high. In addition, many judges and police officers still are reluctant to enforce the law for a variety of reasons.

### **Concluding Remarks**

Poor people actually pay when they get good service. Therefore, theft and



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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 coun-

tries 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. ■



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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.*”<sup>1</sup> 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.*<sup>2</sup>

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.<sup>3</sup> 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.

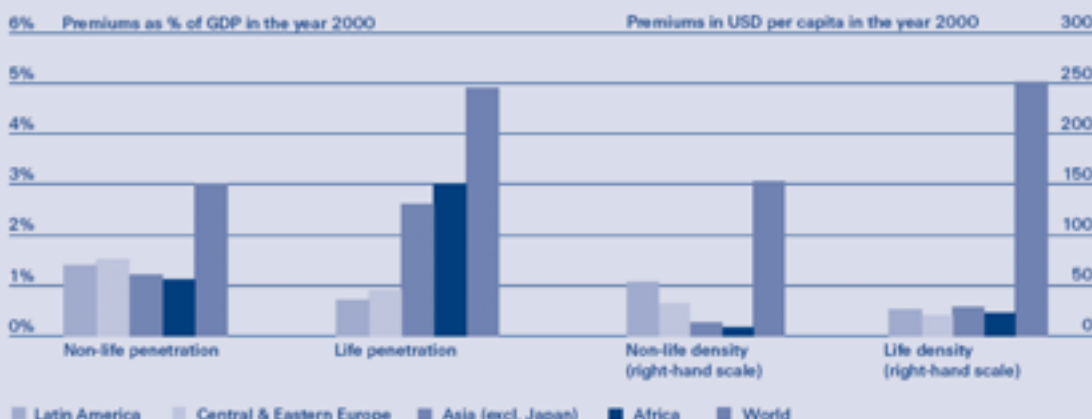
Table 1 shows recent data collected from household surveys about access to health insurance, a simple average of 7 countries for which information is available shows that only 8 percent of households stated that they have some type of private health insurance (the average for poor households is 2 percent). 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%
<b>Average</b>	<b>11%</b>	<b>2%</b>	<b>8%</b>
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.<sup>4</sup>

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.



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- 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.<sup>5</sup>

These risks, or “*chances that an event will cause damage or loss*,”<sup>6</sup> 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

**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
<i>Market-Based</i>	<i>Insurance</i>	<i>Typically not available</i>

**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
<i>Market-Based</i>	<i>Bank Loans for Consumption Credit</i>	<i>Typically not available</i>

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 mech-

anisms 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.

(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.

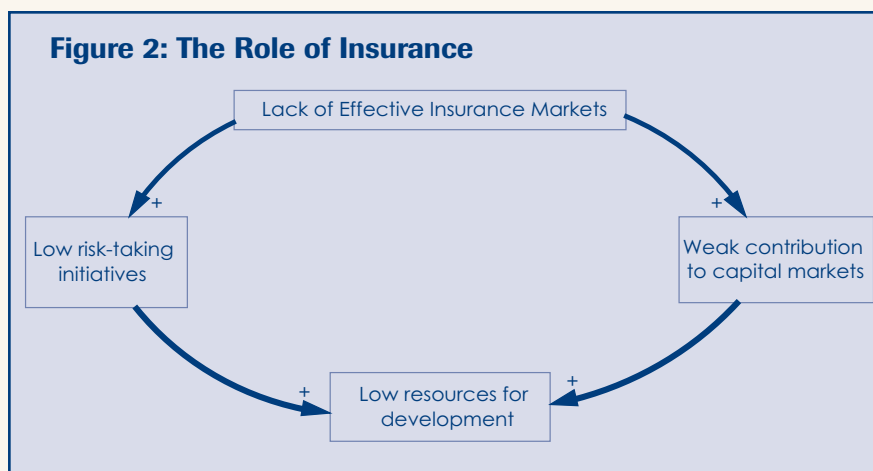
Indeed, they are the ones who suffer most as a result of earthquakes, hurricanes and other such events. As Sen states,<sup>7</sup> the key point is that insurance allows everyone, and particularly those individuals and entities that are more “excluded”, to improve their economic potential and become less dependent on welfare programs. North<sup>8</sup> 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.

### 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.”<sup>9</sup> 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.



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.<sup>10</sup> 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 govern-

ment 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.<sup>11</sup>

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 to economic growth and development, and has the function to provide opportunities to those at the *bottom of the pyramid*. Therefore, there is a need for additional research on the factors that enable the insurance industry to expand and be more effective. The public policy significance in the issues related to the development of insurance markets in Latin America and the Caribbean relates to identifying to what extent the government needs to intervene to promote the insurance business in order to favor access to insurance services and avoid underprovision and financial disruptions and to ensure welfare gains.

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

These key findings need further research and diagnostic at the national 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 important players such as supervisors and the industry, and also the Inter-American Development Bank to formulate and implement specific activities that focus, first and foremost, on relaxing the constraints that have a negative impact on information, supervision and enforcement as well as political and economic stability to favor an effective insurance market that contributes to growth and 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](http://www.iadb.org/sds/IFM/publication/gen_407_3231_e.htm)

## Book Reviews, Articles & Papers:

### **A Quarter Century of Pension Reform in Latin America and the Caribbean: Lessons Learned and Next Steps**, Edited by Carolin A.

*Crabbe*, Inter-American Development Bank, ISBN: 1-59782-020-2, Washington, D.C., 2005.

The social security equation is worsening around the world with the aged population growing faster than the labor force. In the last two decades of the twentieth century, the Latin American and the Caribbean region was faced with what seemed insurmountable difficulties in this regard. Social security expenses had grown with inflation and upward adjustments of wages, and revenues had lagged with unemployment, a drop in real wages and widespread tax evasion. Within this framework, several countries in the region undertook a profound overhaul of their social security systems, replacing them fully or partially with a privately managed and invested system. These far-reaching reforms have changed the way social security is viewed and, as a consequence, policymakers around the world are looking at the experience of the region.

A Quarter Century of Pension Reform in Latin America and the Caribbean provides an analysis of these reforms, what worked well, what did not, what are the lessons learned and what are the next steps. While in many cases it is still too early to assess the success of the reforms, it is not too early to examine some of the barriers and difficulties encountered and to propose viable solutions to them. This is important since much of the literature is focused on determining whether or not the reforms were successful. The methodology of this book goes beyond this in two ways. First, it assesses why the reforms succeeded or failed and clearly identifies conditions that con-

tributed or impeded them and possible solutions, with a view toward providing options to countries that have not yet undertaken first-generation reforms. Second, it suggests the next steps required to consolidate and deepen existing pension reforms.

The book is structured in twelve chapters. Among the topics covered in the chapters are lessons learned from the pension reform in Latin America and the Caribbean; country studies for Chile, Brazil, Mexico and Argentina; pension systems in the English-speaking Caribbean; public and private roles in pension reform, and annuities.

Clearly, there is an urgent need to better understand the successes and failures of the first generation of reforms, to provide parameters for second-generation reforms, and to assemble the lessons learned for the benefit of countries that have not yet begun their reforms. The book is especially timely since so many countries in the region are faced with a worsening demographic equation in which the ageing population is growing more rapidly than the labor force. Indeed, because of these demographic changes countries such as the United States are contemplating this type of structural reform anew and are studying the Latin America experience.

### **Recouping Infrastructure Investment in Latin America and the Caribbean: Selected Papers from the IDB Infrastructure Conference Series**, Edited by Juan Benavides, Inter-American Development Bank, Washington, D.C., 2005.

Recent studies show that, from 1980 to 1997, Latin America's infrastructure gap relative to East Asia grew by 40 percent for roads, 70 percent for telecommunications and nearly 90 percent for power generation. This infrastructure gap can account for nearly 25 percent of the Latin America's GDP gap relative to the East Asian economies



over the 1980-2000 period. The gap has widened despite the fact that Latin American countries turned to the foreign private sector for financing part of their infrastructures since the early nineties. However, some countries completely failed to attract those investments and others that initially attracted capital, were unable to keep doing so at a rate sufficient to reduce the infrastructure gap.

Many factors have been put forward to explain the failure to increase infrastructure investment. Among them are slowdowns in growth in the region, lack of commitment on the part of relevant stakeholders, social reluctance to foreign investment, poor enforcement and protection of property rights, the inexistence of domestic financial and capital markets, weak regulatory frameworks, and fiscal constraints (which limit the ability of governments to borrow to improve and/or expand capital investments).

Given the above concerns and the central role that infrastructure plays in regional economic competitiveness, the Bank launched the *IDB Infrastructure Conference Series*, to raise the awareness of government authorities and the private sector about the substantial infrastructure investments required.

Five papers discussed during the conference series are included in this selection because they help depict overall infrastructure investment issues in the region. The papers, which are preceded by an overview of general lessons and challenges, address themes such as the mismatch between public perception and the gains from privatization in Latin America; innovative financial structures; investor perceptions of infrastructure risk; the potential of public-private partnerships; and the fiscal dimension of infrastructure investment.

The Infrastructure and Financial Markets Division  
Private Enterprise and Financial Markets Sub-department

The Association of Supervisors of Banks of the Americas (ASBA)

cordially invite you to participate in the Workshop

**The Resolution Process for a Bank in Crisis:  
Six Operating Manuals for that Process**

March 20, 2006 • IDB Enrique V. Iglesias Conference Center, Room CR-300 • Washington, D.C.

After the banking crises of the 90's, various multilateral organizations developed and made available to the international community, norms and codes of good banking practices with the purpose of reducing the risks of future crises. Nevertheless, not until recently have recommendations been specifically designed for the management of a banking entity that had been intervened.

These recommendations, are included in six operating manuals that have been now published under the initiative of the IDB and ASBA and that are expected to be used as a general set of guidelines for conduct, or as an operating guide, to be implemented in conjunction with each country's existing legal framework. These manuals are intended to be used as a tool to assist regulator or bank supervisors in their intervention functions.

The main objective of the conference is to present the six operating manuals, and to encourage the debate on their content. The presentations will include, practical examples of banks in crisis, interventions made in some countries of the region, practical approaches and lessons learned.

For more information on this event, please contact Paula Urbano at [paulau@iadb.org](mailto:paulau@iadb.org) or 202-623-2075.

The Infrastructure and Financial Markets Division of the Sustainable Development Department provides technical and advisory support, research and dissemination within the IDB group. This mission is accomplished through the development of policies and strategies, training programs, and dissemination of best practices.



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