Insurance Securitization

Catastrophic event exposure and the role of insurance linked securities in addressing risk

By:

Peter Carayannopoulos, Ph.D
Chair of Insurance & Associate Professor (Finance)
Wilfrid Laurier University

Paul Kovacs
Executive Director, Institute for Catastrophic Loss Reduction
Adjunct Research Professor, Economics Department, The University of Western Ontario

Darrell Leadbetter
Senior Policy Analyst, Insurance Bureau of Canada

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The Institute for Catastrophic Loss Reduction (ICLR) was established in 1998 with the mission to reduce the loss of life and property caused by severe weather and earthquakes through the identification and support of sustained actions to improve society's capacity to adapt to, anticipate, mitigate, withstand and recover from natural disasters.

For Further Information, please contact:
Institute for Catastrophic Loss Reduction
151 Yonge Street, Suite 1800
Toronto, Ontario, Canada M5C 2W7
Telephone: (416) 362-6112 ext 4352
Fax: (416) 361-5952
E-mail: info@iclr.org www.iclr.org

Introduction

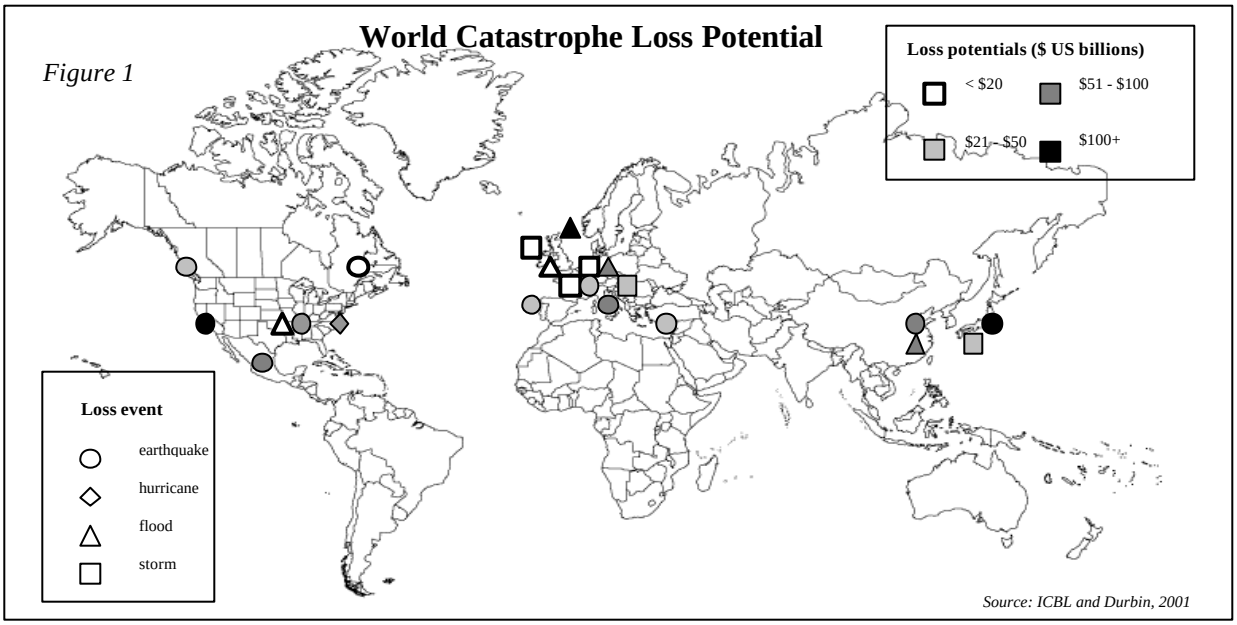
The number of natural disasters recorded in Canada has increased almost every decade throughout the past century. More frequent severe weather events account for most of the increase. The purpose of property and casualty insurance is to spread, manage and absorb risk. It provides a mechanism for individuals and businesses exposed to possible loss to engage in risk reduction by pooling resources. Insurance provides a safety net that mitigates the effects of loss events and allows individuals and businesses to recover.

As property and casualty insurers design their risk management programs, they are increasingly likely to consider a total financial risk management approach. In recent years, insurers have had a new risk management tool available for consideration as insurers have begun issuing securities linked to bundles of insurance risk. The securitization of insurance risk transfers underwriting risks to the capital markets through the creation and issuance of financial securities.

Although securitization is a recent phenomenon within the insurance industry, the process has existed in the general financial markets since the 1970s. Securitization emerged as a balance sheet tool in response to evolving financial needs, primarily as a tool for creating liquidity for asset classes, such as mortgages, that were previously illiquid. The market for asset-backed securities (ABS) had grown to over $170 billion by the mid-1990s (Swiss Re, 1997 & Gallant-Halloran, 2000).

For the property and casualty industry, the experience of natural catastrophes in the early 1990s was an awakening. In 1992, Hurricane Andrew resulted in the largest natural catastrophe, in terms of insurance losses. With losses exceeding $19.6 billion (in 2000 USD), Andrew rendered ten insurers insolvent overnight. Insured losses would have exceeded $50 billion (USD) had the storm made landfall in Miami, just several miles from where it actually did. At that time, an insured catastrophe loss of $50 billion would have represented a loss of 25 percent of the capital base of the United States property and casualty insurance industry (Laurenzano, 1998). The 1993 earthquake in Northridge, California, a $16.3 billion (in 2000 USD) loss, further highlighted the exposure of the industry to catastrophic losses. The events of Andrew and Northridge totaled nearly $36 billion (in 2000 U.S. dollars) in insured losses. These two events resulted in natural catastrophe losses that exceeded the previous dozen years combined. Comparatively, the cumulative insured losses from natural catastrophes during the period of 1980-92 totaled only about $25 billion (MacMinn, 2000). Globally, economic losses from natural disaster has increased nine-fold since the 1960s to more than $430 billion (USD) during the 1990s (Kovacs et al, 2001).

Catastrophic risk exposure will continue to grow as the population of hazard-prone areas such as the Lower Mainland of British Columbia, California and Florida continue to grow. The total value of property at risk in Canada's highest earthquake risk area alone, British Columbia's Lower Mainland, is approximately $260 billion (Scawthorn & Waisman, 2001). Increasing population and property densities in these and other endangered areas heighten the risk of increased natural catastrophe losses (Swiss Re a, 2001 & MacMinn, 2000). Today, roughly half the population of the United States and a third of Canadians live in a catastrophic event–prone area (Himick, 1998). It has become generally accepted that in the U.S. an event loss will exceed



$100 billion (USD) at some point. Figure 1 highlights identified natural catastrophe loss potential in the world.

The rationale for the increasing interest in securitization is easy to comprehend. Insurance markets operate most efficiently when individual losses due to a certain peril are random, easily measurable, and uncorrelated among exposure units. In such cases, losses can be spread efficiently across a large number of policyholders while the risk of failure for primary insurers is minimized. Although these conditions are rarely satisfied for most covered perils, small imperfections that distort the distribution of aggregate losses can be controlled through underwriting controls, the establishment of adequate reserves and the cession of risks through reinsurance.

Insurance markets, however, have difficulty dealing with catastrophic or "uninsurable" risks which have a low probability of occurrence, a high severity of losses, and are positively correlated across many exposure units. For these risks, non-insurability arises as a result of the fundamental mismatch between the size of the actuarially fair premium pool that can be collected in a given year, and the size of a mega-loss that might occur in any year[1]. Estimates place the capital and surplus for all risks of U.S. insurers at about $290 billion (III, 2002 & MacMinn, 2000). This is for coverage of property risks of about $30 trillion as well as the casualty coverage associated with an economy of over $9 trillion (Swiss Re a, 2001 & IIIa, 2001). Global reinsurance, with approximately $100 billion in capital and surplus, is small relative to the potential exposures.

Recognizing the limits of insurers' and reinsurers' ability to finance major catastrophe risks, the insurance industry has developed mechanisms for transferring catastrophic underwriting risks to the capital markets. The capital markets of the United States alone represent over $12 trillion in equity values (MacMinn, 2000). A catastrophic event of $100 billion (USD) would represent

[1] For a discussion on the insurability of catastrophe risks see Jaffee and Russell (1997).

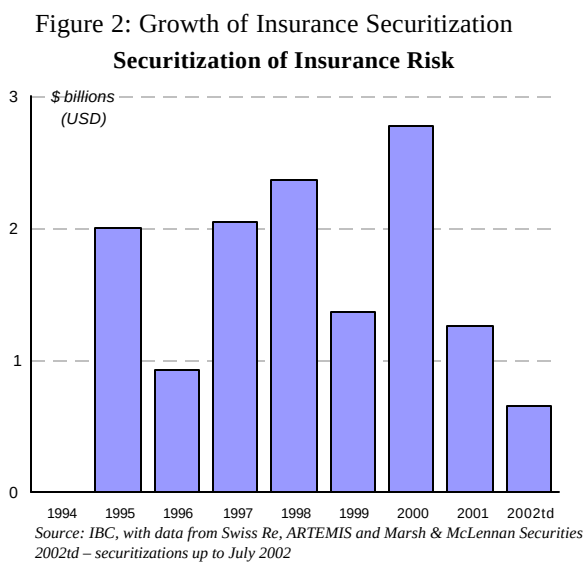
less than 1 percent of the U.S. market portfolio. A fluctuation in this order of magnitude are no more than a normal day's movement in asset value of these capital markets (Laurenzano, 1998)[2].

Insurance securitization, with innovations in modeling and financial engineering, developed as a means for transferring these types of insurance risks to capital markets (Economist, 2001).

The securitization of insurance risk

Approximately $15 billion (USD) of property and casualty insurance risks have been securitized worldwide since 1994. Compared to the $30 trillion in U.S. property risk, this is small. Following rapid initial growth, the pace of securitization, in terms of value and number of reported transactions, slowed in 2001 and in the first half of 2002.

Figure 2: Growth of Insurance Securitization



Source: IBC, with data from Swiss Re, ARTEMIS and Marsh & McLennan Securities
2002td – securitizations up to July 2002

Insurance securitization may be defined as the transfer of underwriting risks to the capital markets through the creation and issuance of financial securities. Rather than an insurer transferring its underwriting risk to a reinsurer within the insurance industry, the risk is transferred to the broader capital markets. Securitizing insurance risk involves the transformation of underwriting cash flows into tradable financial securities and the transfer of these underwriting risks to the capital markets through the trading of those securities. This is generally accomplished by the buying and selling of financial instruments whose cash flows are contingent upon underwriting experience.

In principle, the securitization of insurance risk is not limited to catastrophe risks. Nevertheless, insurance securitization has developed in response to a growing awareness that the capacity for natural catastrophe cover available on the insurance market only constitutes a fraction of the maximum exposure. In an attempt to obtain additional capacity, primary insurers and reinsurers have begun to securitize catastrophe risk portfolios.

In any risk transfer, whether one that involves a traditional reinsurance contract or a securitized arrangement, the three main issues which must be addressed are the credit risk of the provider of compensation in the event of a loss (reinsurer or investor), the basis risk faced by the primary insurer, and moral hazard. Basis risk is the difference between the actual loss of the insurer and the amount of compensation the insurer receives according to the risk transfer agreement, which may be calculated on a basis other than the insurer's actual loss (Croson & Kunreuther, 1999). Moral hazard behaviour occurs when the insurer's marginal cost of loss control and claim settlement efforts exceeds the marginal benefits from the risk transfer arrangement which in turn may lead to a relaxation of the insurer's underwriting and other loss control standards. In

[2] Note that this ignores the market's own reaction to such a catastrophic loss. Most models assume that market fluctuations are independent of catastrophe losses.

traditional reinsurance contracts, basis risk is eliminated with the reinsurer indemnifying the primary insurer for the actual losses that may be incurred over and above a certain level, depending on the actual agreement.

Credit risk is mitigated with the careful selection of the reinsurer on the basis of the strength of the reinsurer's financial position, and through a diversification process under which multiple reinsurers are used to serve the needs of the primary insurer. Similarly, moral hazard is often mitigated through the establishment of retention limits, retrospective pricing, and with the careful examination of the insurer's underwriting practices and controls. The mitigation process of both credit risk and moral hazard often results in long-term relationships between primary insurers and reinsurers that significantly reduce the agency costs of a reinsurance transaction. These relationships are not possible, at least in the early development stage, in the market of securitized risk.

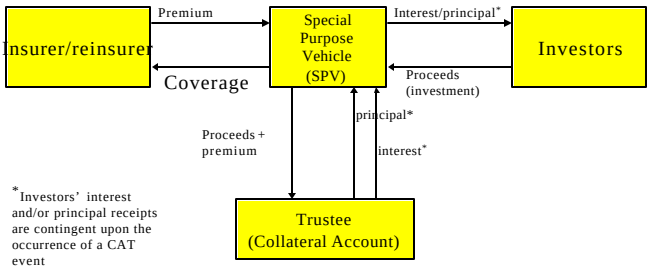
In most securitized risk transfer transactions the same issues are addressed primarily through the design of the security, i.e., the mechanism that triggers compensation, and the basis used in the calculation of compensation in the case of a loss event. In a limited number of insurance-linked securities, compensation to the insurer in the event of a loss is based on the insurer's actual loss experience – a loss indemnification type of arrangement. Similar to traditional reinsurance arrangements, indemnification type of insurance-linked securities require the careful analysis of the insurer's book of business, underwriting practices and loss control methods. However, as capital markets in general lack a reinsurer's expertise and knowledge of the insurance market, mitigation of the moral hazard issue could entail high transaction costs that could make such arrangements prohibitively expensive.

In the majority of securitized risk transfer products, calculation of the insurer's compensation in the event of a loss is contingent upon losses reported by an aggregate loss index (index-based arrangements), or compensation is predetermined with the trigger linked to some physical attribute of the event such as the magnitude, intensity and epicenter of an earthquake, or wind speed, velocity and location of landfall of a hurricane (parametric type arrangements). Since compensation is not a function of the insurer's actual loss, such arrangements eliminate the problem of moral hazard. However, the insurer may be exposed to significant basis risk to the extent that its actual losses are not consistent (or highly correlated) with the aggregate losses as reported by the loss index. Therefore, the insurer must structure such arrangements carefully through the appropriate choice of an aggregate loss index and the index loss level that triggers compensation. Since it is generally easier to predict index rather than individual company losses, such arrangements are characterized by shorter loss development periods, while in parametric type arrangements loss development periods can be practically eliminated. Furthermore, since investors do not need to undertake a close examination of the insurer's exposures, underwriting practices, and loss control methods, transaction costs can be significantly reduced. In most securitized risk transfer transactions credit risk, is generally eliminated through a combination of in-trust held funds and collateralization.

The majority of insurance securitization transactions concluded to date has dealt with earthquake or storm risk in the United States or Japan. The most common method of insuring natural catastrophe risks is through the issue of catastrophe (CAT) bonds. The generic flow of a CAT bond, also known as an "Act of God" bond, is depicted in Figure 3. Premiums from the

insurance company and the proceeds from investors are pooled into a special purpose vehicle (SPV), usually operating in a tax-friendly environment, which serves as a fully collateralized (no credit risk) source of recovery for the insurer. CAT bond provisions allow for the forgiveness of interest and/or principal payments to the investors if a predetermined CAT event occurs. The extent of the forgiveness can be partial or total, or relative to the size of the loss, and can be triggered by the insurer's actual losses or losses associated with an aggregate loss index. CAT bonds may cover a single peril or multiple perils. Other common insurance-linked securities that have been arranged to date are Catastrophe Risk Exchange (CATEX) Swaps, Insurance Derivatives/Options, Catastrophe Equity Puts (CAT-E-Puts), and Contingent Surplus Notes[3].

Figure 3: Catastrophe Bond Flow of Funds



The basic arguments in favour of insurance securitization for insurers include the increased capacity through the access of capital of the financial markets, greater flexibility in terms of coverage, fully collateralized (and thus no credit risk) protection, insulation from adverse price movements due to underwriting cycles, and high aggregate level risk transfer. For individual investors providing the necessary funds, advantages are above average expected returns and increased diversification – CAT events have usually low correlation with an investor's portfolio of other assets and, thus, insurance-linked securities could enhance a portfolio's risk-reward profile (Cox et al, 2000 & Swiss Re b, 2001). In a review of catastrophe bonds issued between 1997 and 2000, the average spread was 4.2 percent above the risk free London Interbank Offered Rate (LIBOR), despite expected losses averaging just 0.6 percent (Swiss Re a, 2001).

To date, the primary purpose of insurance securitization has been to expand capacity at the reinsurance level. In general, insurance linked securities tend to be significantly more expensive than competitive reinsurance prices (Bantwal & Kunreuther, 2000). Reinsurance prices are the key factor in the affordability of securitization as a risk management tool (Swiss Re a, 2001). For lower layer risks that can be diversified cross-sectionally, the economic rationale for securitization in the face of large basis point risk associated with securitization is less compelling where competitive reinsurance is available.

However, prices in the reinsurance market are highly volatile and tend to rise during periods of strain on the capacities of reinsurance markets (Anderson et al, 1998). Following the terrorist events of September 11, 2001, there was speculation that securitization could be used by insurers

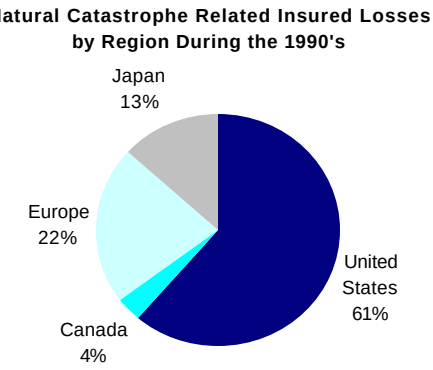
[3] For a detailed discussion for some of these products see Bernero(1998) and Bouriax and Himick (1998).

to adjust to reinsurance constraints (Schultz, 2001). Since losses from terrorist events are extremely challenging to model, securitization might not be a viable financing mechanism for terrorism risk. Nevertheless, as the price of reinsurance traditionally increases following large events, securitization may provide an economical alternative, or complement, to the reinsurance of other forms of risk. While the spreads for insurance linked securities widened in the secondary market, the influx of an estimated $28 billion (USD) in new capital into the reinsurance industry following 9/11 has mitigated the need for additional capacity to be developed through securitization (IAIS, 2002).

International experience in insurance securitization

The transfer of insurance risks to capital markets through securitization has reflected a broader trend toward financial innovation and the convergence of capital and insurance markets. Worldwide, nearly $1.3 billion (USD) in property catastrophe risks were securitized in 2001.

Figure 5: Regional Distribution of Insured Losses by Natural Catastrophes



Source: IBC, with data from the Institute for Catastrophic Loss Reduction and Swiss Re

The United States has taken a lead role in the development of insurance linked securities and insurance securitization is very advanced in comparison to any other country or region. Nevertheless, a 1998 survey by the Risk and Insurance Management Society suggests that while there is significant interest in insurance securitization as a risk management tool, for the vast majority of companies and risk managers, it is not an important component of their risk management programs (Swiss Re, 1999). Currently the primary purpose of insurance linked securities in the United States has been to expand capacity at the reinsurance level for storm and earthquake on the east and west coasts (Swiss Re, 1999).

Within Europe, the development of insurance securitization is advanced within the United Kingdom and less advanced in the markets of continental Europe (Spiller, 2001; Swiss Re, 1999). However, several of the world's larger reinsurers, active in insurance securitization, are headquartered within continental Europe. Historically there have been few European insurance linked securities. Significant winter storms in France, Germany and Switzerland during 1999 have renewed interest in insurance securitization in the region as economic losses from severe weather exceeded $18 billion (USD). Insured losses were estimated to be approximately $9 billion (USD) with reinsured losses exceeding $5.2 billion (USD: Swiss Re a, 2001). As a result, several catastrophe bonds covering European windstorms were issued in 2000, 2001 and 2002. By comparison these losses are comparable to the estimated insured loss exposure for earthquake in British Columbia.

In Japan, insurance securitization has been used as a risk management tool for earthquake risk since 1997. A high level of exposure to catastrophic events and losses to severe weather events, which have averaged $1.8 billion (USD) annually in recent years and higher relative reinsurance

costs, have contributed to a higher profile for insurance securitization among insurers than exists in other regions. Nevertheless, the development of insurance securitization as a risk management tool remains comparatively less developed in Japan than either the United States or Europe. This is largely attributable to a system where, since 1956 for industrial and 1966 for residential earthquake risks, private insurers and government share responsibility for earthquake coverage. Private insurers are solely responsible for coverage up to the first $1 billion. For indemnity payable between $1 billion and up to $11.4 billion, private insurers and government share responsibility equally. For indemnities payable over $11.4 billion up to a maximum of $57.2 billion, government is responsible for 95% of the liability and private insurers for the remaining 5% (Marine and Fire Insurance Association of Japan, 2000).[4]

There are several regions around the world with significant mega-catastrophe potential, including Japan, Europe and the east and west coasts of the United States. To date, insurance securitization has primarily been a modest mechanism for risk management in these markets.

Insurance securitization in Canada

One advantage that Canadian insurers have is the relatively easy access to both Canadian and U.S. capital markets. Furthermore, given the locations and the relative size of potential losses in Canada, Canadian loss events are likely less correlated with capital markets, as compared to U.S. loss events. Thus, the potential for greater diversification benefits to investors exists, which in turn could lead to a lower cost of capital in any alternative risk transfer transaction involving insurers with Canadian risks exposure.

However, securitization of insurance risks in Canada is virtually at its infancy and the significant growth that these types of securities have experienced mainly in the United States, but also in Japan and Europe has not been replicated here (OSFI, 2001)[5]. This is partly a reflection of the slower development of all forms of securitization products in Canada and of a competitive reinsurance market with rates well below the costs of securitization. It is only since the mid-1990s that the securitization market in Canada moved beyond mortgages and into asset backed securities. This is partly due to the nature of the Canadian property and casualty environment, i.e., availability or reinsurance coverage at relative low rates, a lower incidence and experience with catastrophic events, and uncertainty surrounding the regulatory environment with respect to the securitization of insurance risks.

Given the international nature of the reinsurance market, and the mobility of reinsurance capital, the Canadian market not only represents a small portion of the international reinsurance market exposure, but is also likely viewed as an opportunity for diversification by reinsurers with significant exposures elsewhere. Thus, Canadian primary insurers have traditionally been able to arrange reinsurance coverage at reasonable rates, considerably lower than rates they can obtain in the traditional capital markets. However, the recent events of 9/11 clearly demonstrated the fact that the Canadian reinsurance market is not immune to capital pressures from major international

[4] Converting to Canadian dollars using the exchange rate of June 30, 2000 (71.736). Thresholds in local currency units (yen) are ¥75 billion, ¥75 billion to ¥818.6 billion and ¥818.6 billion to ¥4,100 billion.

[5] In December 1996, Hannover Re entered into a $100 million cat swap with Citibank that securitized Canadian earthquake and windstorm risk. However, this transaction was part of an issue that securitized catastrophe risks in several regions around the world (CNA Re, 2001) and not unique to the Canadian insurance environment.

CAT or other mega-loss events, and primary insurers may face significant capital constraints and rate increases due to losses suffered elsewhere in the world. Therefore, availability of reinsurance capacity at reasonable rates in Canada is exposed to constraints similar to the ones in the U.S. and Japanese markets, so additional means of securing capacity could be explored.

Compared to U.S. and Japan, the Canadian insurance market has experienced relatively small losses due to catastrophic events. The threat of catastrophic hurricanes is minimal and the only severe weather related losses to date are due to floods, hail, and winter storms, events of moderate frequency and relatively low severity thus far. The average insured loss per event, until the 1998 ice storm in Eastern Canada, remained below $45 million. Insurance securitization, with a high level trigger, is not viewed as the optimal risk management tool for these severe weather events.

Instead, mitigation and traditional insurance risk management tools have been employed for these risks in Canada. However, the potential for mega-losses does exist in Canada. Two of the most seismically active areas of the country are in Southwestern British Columbia and the St. Lawrence valley. In the first ten months of 2002 alone, there were twenty-nine earthquakes within twenty kilometers of Victoria or Lower Mainland of British Columbia. While most of these were small (with a mean magnitude of less than one), the area experienced an earthquake of magnitude four only seventeen kilometers from Victoria.

These two regions contain approximately a third of Canada's population and produce a third of Canada's national income (IBC, 1995). Canadian insurers presently provide over $600 billion in protection for personal property in these vulnerable areas. Estimates during the early 1990s indicated that if a major quake were to occur in these areas, then expected earthquake related damage (from fire and shake) for British Columbia and Quebec would be around $10 billion and $3.5 billion in insured losses respectively (IBC, 1995). Total economic losses were estimated to exceed $30 billion in each region.

With continued economic and population growth in these areas, the exposure and magnitude of potential economic losses has significantly increased during recent years. Recent data for the Canadian property and casualty industry underscores the challenge. In 2001, Canadian property and casualty insurers had capital and surplus of approximately $18.1 billion in order to cover property and casualty risks associated with an economy of over $1.1 trillion. The traditional approach of the Canadian insurance industry to cover earthquake risks through a combination of capacity within the industry and reinsurance has served the market well, nevertheless securitization needs to be explored as an additional tool.

In addition to low demand due to lower reinsurance rates, uncertainty surrounding the regulatory environment in North America has contributed to the underdevelopment of insurance securitization in the country. The Office of the Superintendent of Financial Institutions ("OSFI") has not yet developed a regulatory framework for the securitization of property and casualty insurance (OSFI, 2001). A clear regulatory environment would clarify tax treatments and capital requirements for insurers and contribute to increase investor confidence that the risks underlying the securities are adequately disclosed.

Finally, the absence of formal catastrophe aggregate-loss indexes developed for financial markets, both at national but more importantly regional levels, is a serious impediment to the growth of insurance linked securities in Canada.[6] As noted earlier, such indices are important to the design of these securities, in a way that reduces (or resolves) problems arising from such issues as basis risk and moral hazard.

Despite the absence of any demand for insurance linked securities in Canada to-date, some obvious advantages of transferring certain insurance risks to the capital markets such as increased capacity, immunization against a hardening of reinsurance rates, potentially lower capital costs associated with reduced reserve requirements and elimination of credit risk should not be neglected. It will be advantageous to Canadian insurers to explore the securitization of insurance risks as an alternative way for risk transfer or risk financing.

Issues for regulators

The regulatory environment is an important consideration for any organization considering the use of insurance linked securities as a risk management tool. A regulatory framework can facilitate risk management planning and provide investors with information on insurance linked securities being issued as well as the underwriting risks supporting the issue. Insurers need to know how insurance linked securities will affect their statutory net worth and capital requirements. International experience suggests that a clear and appropriate regulatory framework can encourage suppliers of insurance linked securities and increase the number of investors with the capacity to evaluate each security. This promotes the development of the market for insurance linked securities.

United States

Following research presented to the NAIC working group that suggests that domestic securitization benefits both consumers and the general public, the U.S. has begun to develop a regulatory framework for securitization. In 1999, the NAIC adopted a Protected Cell Company Model Act to facilitate on-shore securitizations. A protected cell is a specific pool of assets and liabilities of a special purpose company segregated and insulated by statute from other assets and liabilities held by the special purpose company. By early 2002, the model had been enacted by six states in order to enable insurers to securitize risk in the capital markets efficiently and economically.

Further, the recently adopted Special Purpose Reinsurance Vehicle Model Act provides a basis for the creation of SPV's to facilitate the securitization of insurance risks in the United States (NAIC, 2001 & Panko, 2001). Nevertheless, ambiguities in the tax treatment of a protected cell has meant that, to date, there has been no use of a protected cell to securitize insurance risk (Swiss Re b, 2001).

Current accounting guidance requires that the contract must indemnify an insurer against loss or liability associated with insurance risk to qualify for reinsurance accounting. The majority of

[6] It should be noted that parametric information on catastrophic events in Canada is developed and a continuing area of research.

insurance linked securities are generally non-indemnity based. Therefore, even though an insurer is reducing its risk, the accounting treatment would not allow a reduction of liability. The NAIC working group of state insurance commissioners has advanced work to develop a regulatory framework by proposing tax treatments for insurance linked securities and is examining capital treatment and risk transfer issues (NAIC, 2001; Panko, 2001 & GAO, 2002).

A House of Representatives subcommittee (the House Financial Services Oversight and Investigations Subcommittee) will explore using catastrophe bonds to increase insurance capacity for catastrophic losses. The subcommittee is expected to look into ways of resolving regulatory, accounting and investor-protection barriers affecting the utilization of catastrophe bonds to tap into the capital securities markets as a means into supplementing traditional catastrophic insurance markets. With these developments, the United States has the world's most advanced regulatory framework for the securitization of insurance risks.

Europe

Within Europe, a review of alternative risk transfer products, including insurance securitization was commissioned for the European Union. The review identified a number of current regulations that applied to alternative risk transfer business but concluded that there was no specific European regulatory framework for securitization (Tillinghast, 2000).

Asia

Historically in this region, reinsurance methodologies have been basic and traditional. In part this has been due to the existence of state owned/funded reinsurance systems and regulatory restrictions in some markets. The use of insurance linked securities and other mechanisms of financial reinsurance are restricted or prohibited in some Asian markets. Japan has led the region in the use and development of a regulatory framework for insurance linked securities. Nevertheless this framework is less developed than that of the U.S.

International Association of Insurance Supervisors (IAIS)

Internationally, regulators have begun to review the use of insurance linked securities. The International Accounting Standards Board has promulgated rules with regards to insurance linked securities and the International Association of Insurance Superintendents ("IAIS") set up a Securitization Subgroup in February 2001 with the mandate to review the issues surrounding insurance securitization and develop an issues paper.[7]

The final draft of the issue paper is expected to be circulated in the late fall of 2002. Further, the IAIS will develop principles on the treatment of insurance securitization. The IAIS subcommittee has identified a number of regulatory issues to resolve including how do regulators exercise jurisdiction, investment restrictions; constraints on the use of insurance linked securities; tax treatment and the implications for capital. This work is slated to be completed in 2004.

[7] In some areas the IAS treatment of insurance linked securities remains controversial (IAIS, 2002).

Canada

There is no specific regulatory framework for property and casualty securitization in Canada. OSFI maintains guidelines for asset securitization (Guidelines B-5) and for mortgage backed security transactions (Guideline D-4). However, these guidelines for asset securitization are based upon bank, trust and loan company and life insurance company capital rules. Insurance linked securities, as a result of the fundamental nature of the property and casualty insurance business where premiums are booked on the liability side of the balance sheet, are liability-based securitizations. The property and casualty industry, and the risks that it underwrites, differ from that of other financial institutions.

OSFI released a new accounting guideline for transfers of receivables (Guideline D-8) including securitizations in November of 2002.

Implications

Those jurisdictions that lack a clear regulatory framework for insurance securitization create demand side disincentives to co-ordinate the transfer of insurance risk to capital markets. A regulatory environment that offers clear and appropriate tax treatment and rules on capital requirements with regards to insurance linked securities allows insurers to better evaluate their risk exposure and determine the appropriate risk management strategies.

Regulators in most jurisdictions have yet to address these issues and develop a complete regulatory framework for insurance securitization. One result of this lack of clarity in regulatory environments has been that the securitization of insurance risks has been coordinated in off-shore jurisdictions. This has been principally attributed to reasons of tax treatment (Grace et al, 2001; Harrington & Niehaus, 2001). The Chicago Board of Trade has offered catastrophe future contracts, however, trading volume was negligible and has been shut down (Grace et al, 2001; Harrington & Niehaus, 2001 & Labatt et al, 2002).

A clear regulatory framework enhances the information available for investors to evaluate newer, less familiar securities, such as insurance linked securities. Further, it contributes toward increased investor confidence in the securities being issued. Nevertheless, there is also a real danger of over-regulation, which would be detrimental to the development of insurance securitization as a mechanism for risk transfer and building insurance capacity (Tillinghast, 2000).

Outlook

To date, insurance securitization has been restricted to a handful of large organizations, primarily reinsurers, from the United States or Europe and have been coordinated in offshore jurisdictions. Insurance securitization is still developing and proponents argue that once key issues such as regulation and education of the investment community are resolved, the relatively new market for insurance linked securities will develop into an expanding mature market.

Insurance securitization has focused on low probability/high severity risks, primarily natural catastrophe exposure. Some within the insurance industry and capital markets view the

securitization of high frequency/low severity covers as the next stage in the development of insurance linked securities. However, the outlook for insurance securitization in the near future is not clear. The relative novelty of insurance securitization, the underdevelopment of the regulatory framework and competitive pricing in the traditional reinsurance market will continue to have a significant impact upon the issuance of insurance linked securities. In Canada, the relatively low incidence of low probability events with meaningful risk of loss suggest that the development of insurance linked securities here will be slow in developing. In time, some have suggested that insurers may securitize claims payments following the path of commercial banks that securitize much of their loan portfolio. Insurers, under such a scenario, would then conceivably receive revenue primarily from practicing their core competencies such as underwriting.

Nevertheless, the current state of the world for insurance securitization is such that the costs of securitization are high relative to traditional reinsurance and the tax and regulatory treatment of insurance linked securities is uncertain. For insurance securitization to become a true additional risk transfer mechanism for property and casualty insurers there needs to be:

- Competitive pricing relative to reinsurance
- Improved catastrophe modeling;
- Standardized insurance linked securities loss indexes (triggers);
- Clear rules on tax treatment, and
- Clear rules regarding statutory net worth and risk based capital.

Rising population and property (value) densities has meant that insurance loss exposure to catastrophic events around the world has been increasing. Insurance linked securities offer the potential to increase the range and capacity of risk transfer and diversify the risk associated with this increasing concentration of people and property. Those jurisdictions that “get it right” will create an additional risk management tool for addressing catastrophic risks, develop a potential mechanism for increased insurance capacity and develop critical human and infrastructure capital in a relatively new branch of the financial sector.

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