



Alternative Risk Transfer: The Convergence of The Insurance and Capital Markets A Three Part Series

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Part I A Broad Overview

Insurance-linked securities, once considered to be an alternative form of risk transfer, have become a mainstream method of transferring risk from insurers to the capital markets. With greater attention being paid to risk at the institutional level and the search for portfolio diversification at the investment level, insurance-linked securities seem poised to further facilitate the convergence between the capital and insurance markets

Abstract

The financial system needs more enhanced tools to manage risk and to ensure adequacy of capital. This has become clearly evident over the past two years. Fundamentals of the financial system are experiencing seismic changes, through both regulation and industry practice, and the landscape will be forever renovated.

Insurance-linked securities (“ILS”) provide a mechanism within the financial system to transfer insurance risk to capital markets and supply protection to investment portfolios. After a rough year in 2008, the insurance-linked security market seems poised to help usher in a new era of financial responsibility. The financial system benefits from the presence of insurance-linked securities, as well as other forms of alternative risk transfer. Because of securitizations, derivatives, and swap structures, insurers are better positioned to spread their risks across the broad spectrum of the capital markets as opposed to relying on reinsurance or overly-redundant capital reserves. ILS allows for efficient use of capital and adds liquidity to the financial system, thereby reducing the cost of reinsurance. This ultimately benefits individuals and institutions seeking insurance protection. Capital market participants benefit from a diversity of risks and returns that are not dependent on the same factors affecting traditional financial markets.

In light of the increasing role that ILS is playing in the financial system, the Insurance Studies Institute (“ISI”) is issuing a three-part series on the Convergence of the Insurance and the Capital Markets (“I/C Convergence Series”). This series is written for market participants and other interested parties, to advance their understanding of how the market has evolved, the state of the market today, and why insurance-linked securities are important to the financial system.

This Part I of the I/C Convergence Series provides a macro-level overview of the insurance-linked securitization industry. It covers the developing role of alternative risk transfer, which has led to the creation of new tools for insurers to manage risk -- risk that was previously thought to be uninsurable. As the need for insurance risk capacity has increased over the last 30 years, so has the need for financial instruments to manage and hedge risk. Part I also provides a history of how ILS began as an alternative to reinsurance, but has since evolved to become an

integral part of many insurer hedging programs. Part I further compares and contrasts the differences between insurance-linked securities and reinsurance coverage, and it provides an overview of the various insurance-linked security structures along with an explanation of benefits provided to investors participating in this asset class.

Parts II and III of the I/C Convergence Series provide a micro-level analysis of the non-life and life insurance-linked security sectors. Like most other financial markets, insurance-linked securities have been impacted by the 2008 financial crisis; however, despite weaknesses in the global financial markets, ILS has remained relatively strong and issuances in most sectors are continuing to grow.

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1 Overview of the Insurance-Linked Security Market

Capital markets and the insurance industry have long held a mutually beneficial relationship. The insurance industries, including both primary and secondary insurance markets, provide risk protection to individuals and companies while the capital markets provide the insurance industries with a wealth of options to earn investment profits and manage reserve funds. In turn, the primary life and non-life insurance industries have been among the largest purchasers of fixed-income securities from the capital markets. At the end of 2008, the life insurance industry alone held \$2.6 trillion in bonds, \$2.0 trillion of which was corporate debt.¹ The insurance industry's large appetite for fixed-income securities has provided the capital markets with substantial liquidity, enhanced trading efficiencies and lowering borrowing costs for both government and corporate debt issuances.

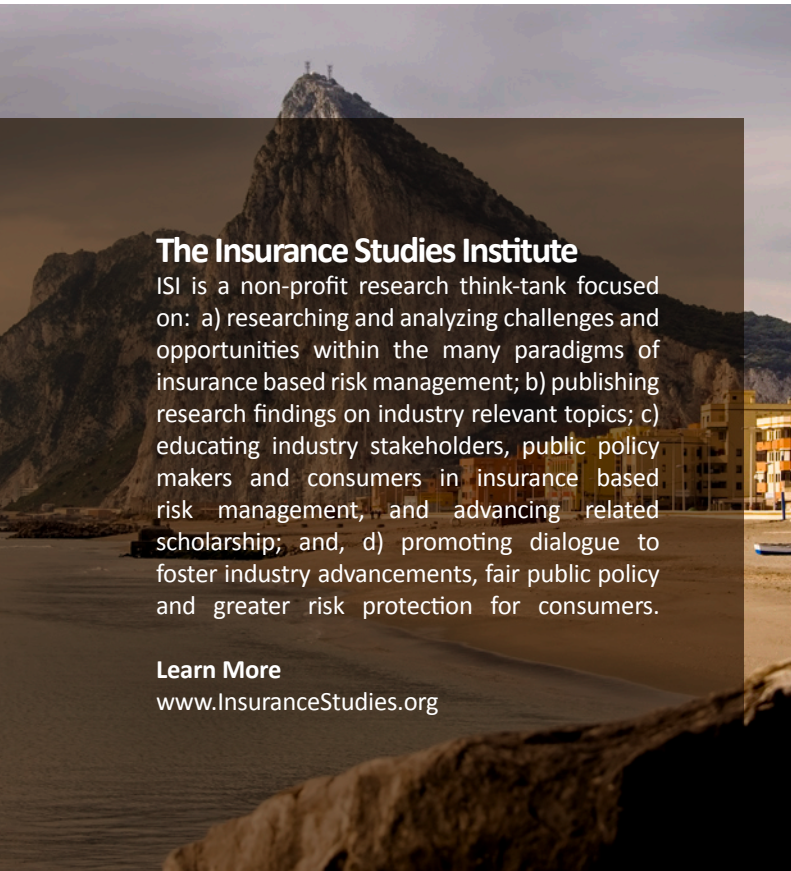
In recent years, the relationship between the capital markets and the insurance industries has evolved to the transferring of exogenous risk through securitization, otherwise known as "Alternative Risk Transfer." Imbalance in the insurance and reinsurance industries has given rise to new financial products created within the capital markets, providing insurers with better tools to manage risk and investors with new investment opportunities. Traditionally, primary and secondary insurance markets have managed risk by holding capital in reserve or

by financing risk positions through reinsurance. But capital held in reserve is unavailable to fund business expansion and new ventures, resulting in business stagnation. The desire to free capital, combined with concerns over the reinsurance industry's ability to provide future coverage, has provided incentive to look for risk-management alternatives.

Investors and asset managers have sought alternative methods to transfer traditional portfolio risks to asset classes having low volatility and low correlation to traditional assets.. ILS appears to have emerged as the apparent "pot of gold." In their infancy, insurance-linked securities were simple fixed-income structures that allowed insurers to manage catastrophic risks. As ILS have evolved, they have become more complex and are emerging as a dynamic new asset class with great appeal to a wide range of investors and provide insurers with a broader arsenal of risk management tools. Insurance-linked securities include a breadth of bonds, derivatives, swaps, and more. The ILS market is made up of many players including: property and casualty insurers, life insurers, pension funds, annuity writers, insurance secondary market stakeholders and institutional investors. Together, participants in this market are expanding the convergence of the capital and the insurance markets.

Cost and capacity limitations in the reinsurance market have created incentives for insurers to turn to the capital markets. The financial industry has responded with securitization instruments through which primary financial products, such as loans or insurance, can be funded by the capital markets. Such securitizations package pools of assets and distribute cash flows to investors through debt securities. Securitization converts illiquid assets into liquid assets.² Insurance-linked securities serve two primary functions, a) manage and hedge various insurance risks, and b) increase the availability of capital by drawing on alternative sources of funding.³ ILS enables primary and secondary insurance markets to have access to large financial resources in the capital markets to fund insurance policy transactions for the benefit of consumers.

Like most other markets, insurance-linked securities have been adversely affected by the global financial credit crisis. However, ILS has proven to be more resilient than other markets. Issuances of ILS are continuing to grow and at the end of 2008, the total notional value of tradable insurance risk stood at \$50 billion and has been growing at 40-50% a year since 1997.⁴ Despite the strength of the asset class as a whole, however, there are weaknesses within some of the individual sectors.



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2 Alternative Risk Transfer

Alternative Risk Transfer (“ART”) is the use of risk management tools other than traditional insurance or reinsurance to provide risk-bearing entities with risk protection. ART combines the risk management marketplace with innovative insurance and capital market solutions.⁵

A. Alternative Risk Transfer Is Ushering in the Convergence of the Insurance and Capital Markets

Alternative Risk Transfer strategies are becoming more commonplace as institutions take a more holistic view of risk. Originally, capital markets were used to cover traditional lines of property and casualty insurance related to natural disasters. Today, ART solutions are being employed to manage risk that was historically thought to be uninsurable in the reinsurance markets. ART began as an alternative to catastrophic risk management, although its applicability may be better suited for the life insurance industry. Life insurers have developed extensive ART approaches including life insurance securitization, full recourse reserve funding, funded letters of credit, surplus relief insurance, administrative reinsurance and related approaches.

The key differential between ART and the traditional insurance marketplace is that insurance and reinsurance markets provide catastrophic risk coverage whereas the capital markets provide additional financial capacity for insurance coverage through self insurance. What used to be considered an “alternative” has now become the “mainstream” approach for many insurers. However, it is not a replacement to reinsurance; it is an integrated approach to supplement reinsurance needs. ART should continue to grow as a tool for managing risk and providing investor diversification. The factors that will lead to continued growth are⁶ volatility of traditional reinsurance prices, lack of reinsurance capacity, high cost of reinsurance following catastrophic events, investor demand for non-correlated returns, and risk diversification.

B. Insurance-Linked Securities are ART Structures that Transfer Risk to the Capital Markets

The lines differentiating the various types of financial institutions are becoming blurred, increasing the amount of risk transfer between them. Investment banks supply capital for insurance risk while insurers use insurance-linked securities to transfer risks to the capital markets. ILS are collateralized with life insurance assets, property and casualty assets, or derivatives of insurance contracts. They are traded on exchanges and over-the-counter markets. Some of the most common forms of ILS include catastrophe bonds, mortality bonds, industry loss warranties, derivatives, reinsurance sidecars, and catastrophe futures contracts.⁷



B. Continued

The concept of securitization dates back to the early 1970s when the Government National Mortgage Association (Ginnie Mae) pooled mortgage loans and issued the first mortgage-backed securities (“MBS”) that were fully collateralized by pools of loans. Other government agencies followed suit in the early 1980s. The Federal Home Loans Mortgage Corporation (Freddie Mac) and the Federal National Mortgage Association (Fannie Mae) introduced securities with multiple classes of credit rating to attract a wider breadth of investors with varying risk tolerance. Shortly after Freddie Mac and Fannie Mae entered the asset-backed security market, other financial institutions began to issue their own collateralized securities. In 2005, privately-issued MBS surpassed government issued MBS.⁸

Not long after the mortgage pools, securitization expanded to other asset classes. In 1987 the first collateralized debt obligation (“CDO”) was issued by the now defunct Drexel Burnham Lambert. A CDO is collateralized with a pool of assets, such as mortgages, and structured into a series of tranches having varying risk classes. Interest and principal payments are made in the order of the tranche seniority such that junior tranches pay higher interest rates to compensate for their additional default risk.

The first issuance of a security backed by insurance assets was in 1996, representing the beginning of the convergence of the insurance and capital markets. Thereafter, insurance-linked securities have become firmly established as an effective risk and capital management tool. ILS generate opportunities for specialized financing to reduce funding costs, increase the scope of available financial products, encourage financial institutions to deploy capital more efficiently, and allow borrowers, lenders, and investors to manage risks with more flexibility. The securitization of catastrophe insurance risk allows investors to combine insurance-linked securities with traditional asset classes, and helps enable institutions to hedge longevity and mortality risks.



3 History of Insurance-Linked Securities From the Mid-1990s Following Several Major Natural Disasters

The increase in losses stemming from catastrophic events in the 1990s led to disruptions in the reinsurance markets which resulted in diminished reinsurance availability and increased price volatility. Insurers, uncertain of future reinsurance availability, turned to the capital markets for alternatives.

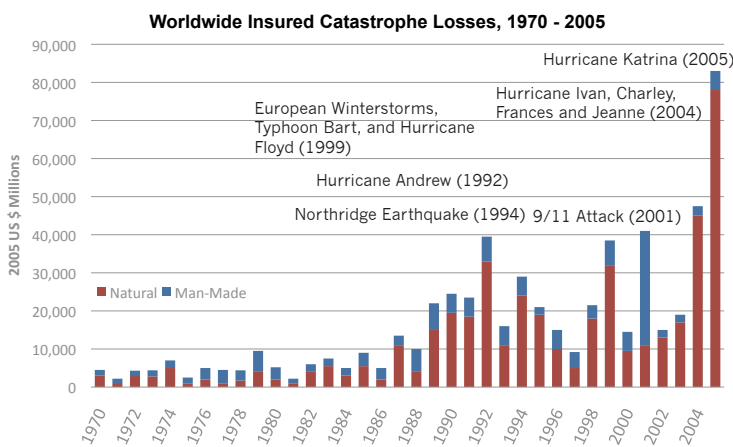
Natural catastrophes are low probability, high severity events. Traditional approaches to managing such risk at the individual and business level is to purchase insurance. In turn, insurers hedge their risks by purchasing reinsurance. In the mid 1990s, Hurricane Andrew and the Northridge Earthquake caused \$45 billion in damage in 1997 dollars, with insured losses of about \$30 billion. This was a substantial increase compared to the previous decade, where aggregate losses amounted to only \$25 billion.¹³ Insurers were under the pressure of escalating demand for risk coverage, coupled with a contraction of reinsurance supply. With losses mounting, there was concern that the reinsurance market lacked the ability to meet future demand for reinsurance coverage at reasonable prices. With the supply and demand equilibrium going against insurers, their risk exposures were excessive. It was these structural deficiencies that led to the innovation of insurance-linked securities. Insurers turned to the capital markets for new solutions. Thus began the convergence of insurance and capital markets.

According to Partner RE,¹⁴ the convergence of the insurance and capital markets accelerated following the 2004 and 2005 hurricane seasons because rating agencies increased capital requirements for insurers that wrote catastrophic risk. Faced with stagnant capacity of reinsurers while primary insurance industries faced increased demand for risk coverage, insurers turned to the capital markets to supplement their reinsurance needs. Although the ILS market was created by insurers looking for alternatives to reinsurance, it has since been fueled by investors in search of diversified high returns.

Convergence of insurance and capital markets enables the primary and secondary insurance industries to create new opportunities to enhance consumer risk management and to provide investors with attractive returns that are uncorrelated¹⁵ to conditions affecting traditional financial markets. Insurance-linked securities provide insurers and reinsurers additional risk capacity at attractive rates. What started as an alternative to reinsurance has morphed into a dynamic new asset class that offers a multitude of new solutions and opportunities to old challenges ... benefiting insurers, capital investors and consumers.

C. The Need for Insurance Risk Capacity is Increasing

The need for risk capacity is increasing across many areas of insurance. For example, weather-related claims have increased fifteen-fold over the last 30 years.⁹ The chart below in Table 1 demonstrates that after years of relatively steady claims from catastrophic events, the size of claims have substantially increased and have become more volatile in recent years. The potential for insurance-related securities is vast, considering that the total premium of all the world's insurers approximates \$4.1 trillion.¹⁰ Although some sectors of the market still lack transparent and tradable platforms, issuance of ILS has expanded at a rapid pace. As noted above, at the end of 2008, the total notional value of tradable insurance risk stood at \$50 billion and has been growing at 40-50% a year since 1997.¹¹



Source: Swiss Re Capital Markets

The issuance of insurance-linked securities reached \$14.4 billion in 2007, which was up 40% from \$10.3 billion in 2006. In 2007, the value of all outstanding securities totaled \$39 billion, up 50% from \$26 billion in 2006. By May of 2008, the value of insurance-linked bonds outstanding stood at \$40 billion, with life bonds accounting for 58% of the market value of bonds outstanding. Despite the rapid growth over the last ten years, the market still has a lot of room for growth. For example, non-life risks transferred to the capital markets represented only 12% of global catastrophe reinsurance limits in 2007. Issuance of insurance-linked securities is expected to grow to \$25 – 50 billion by 2011, while the notional value of bonds outstanding could reach \$150 billion.¹²

4 The Need for Insurance-Linked Securities

In light of increased competition, tighter credit markets, and investment portfolio losses, insurers are paying careful attention to the management of risk and their use of capital. Insurance-linked securities help insurers raise capital and reduce their exposure to risk. Securitization of insurance assets reduces cost of funds, asset-liability mismatches, and capital requirements. Securitization also locks in profits and transfers risk.

A. Reinsurance Provides Risk Financing, Capital Markets Provide Risk Transfer

Reinsurance provides insurers with risk financing while insurance-linked securities provide insurers with risk transfer. The choice of which option is more appropriate depends on the insurer's situation and the climate of the reinsurance and capital markets. Often, insurers use ILS to supplement reinsurance needs but not to replace it. Almost all insurance companies use a reinsurance strategy to manage risk as reinsurance provides direct reimbursement for actual losses. However, reinsurance is influenced by price cycles and successive reinsurance can be more expensive based on loss experience.

Alternatively, capital market prices can be more stable because the terms of coverage are largely independent of previous outcomes. Capital market participants are typically more diversified than reinsurers and provide the ability for pure risk transfer because of their greater capacity.

Traditional reinsurance exposes insurers to credit risk, which can be substantial. Further, the relatively few participants in the reinsurance market are systemically-linked, and if one reinsurer were to default on an obligation, there could be reverberations throughout the entire industry.

B. The Nature of Reinsurance Is Cyclical

Individuals and businesses structure insurance to mitigate burdens resulting from financial risks that are greater than their ability to endure. Insurers of such risks wrap their exposure with reinsurance. Reinsurance supports primary and secondary insurance markets by underwriting large risks, limiting liabilities on specific risks, increasing capacity for new business, and sharing of liability when claims overwhelm any one insurer's resources.¹⁶ Reinsurance serves as an alternative to holding capital in reserve for future claims and cash payouts, thus freeing capital from reserves to increase business capacities.

Insurance is influenced by price cycles, especially with catastrophic reinsurance.¹⁷ After a catastrophic event, the reinsurance industry's capital base may be weakened due to large claims payments. Even if reinsurers have resources available to provide additional coverage, they may lack the desire to add more risks to their balance sheet. Thus, the ability to obtain subsequent reinsurance coverage following catastrophic events is reduced. Additionally, the demand for



B. Continued

reinsurance coverage following catastrophic events tends to increase with a perceived need for insurance. The simultaneous increase in demand paled with a decrease in supply puts upward pressure on the cost of reinsurance, making it more expensive. Firms not able to obtain reinsurance coverage, either because of short supply or higher than appropriate prices, are forced to hold more capital in reserve or look for alternatives, i.e., ARTs.

Following the 2004 and 2005 hurricane seasons, the capital markets took on a significant role in providing reinsurance coverage by developing new and innovative instruments to supplement the role of reinsurance. The addition of these instruments reduced the volatility of reinsurance prices by balancing the supply and demand dynamic. For example, investors now find alternative catastrophe bonds attractive because they provide diversify to investment portfolios and have high yields. Insurers benefit by increased supply of reinsurance coverage resulting from the bonds sold in the capital markets, which frees capital from reserves to generate more business and to server more consumers.

C. Insurance-Linked Securities Versus Reinsurance

Reinsurance is customized to an individual insurer so that when losses occur, the insurer is indemnified. However, even though insurance-linked securities can be customized for a particular insurer, contracts are often standardized and traded on an exchange. From the insurer's point-of-view, this introduces "basis risk," which occurs when the financial instrument does not fully hedge against the insurer's risk position. But at the same time, it reduces the exposure to the credit risk of an individual reinsurer.¹⁸ Exchange-traded contracts have proven to be more attractive to investors because they are more liquid and their underlying risk is based on the performance of the industry rather an individual insurer.¹⁹

Although reinsurance coverage is customized to fit an individual insurer's particular need, it is often limited to a twelve-month timeframe. Standardized insurance-linked securities contracts typically have longer durations providing for longer term protection at fixed costs. However, the upfront costs of structuring an insurance-linked security can be substantial. There are legal fees, broker fees, rating agency fees, bank fees, and actuarial/modeling fees. Reinsurance, on the other hand, has no upfront fees other than brokerage fees.²⁰

5 Insurance-Linked Securities are Issued in Numerous Forms

The first issuance of an insurance-linked security took place in the non-life insurance sector in the form of a catastrophe bond. The market quickly evolved to offer asset-based and derivative-based securitizations from both the non-life and life insurance markets.

A. Non-Life Insurance Linked Securities

The insurance-linked securities market has evolved significantly over the last decade in terms of sophistication and innovation as insurers are finding new ways to securitize more and more perils. The initial concept for insurance-linked securities was based around the securitization of natural catastrophe risk. Catastrophe bonds, and similar financial instruments, provide protection to insurers exposed to catastrophic risk and unavailable reinsurance capacity. High yields and non-correlated returns attracted investors into this space and facilitated a new asset class with many financial innovations and risk-management tools including:

Catastrophe Bonds are the capital market alternative to traditional catastrophe reinsurance. Catastrophe bonds are used by insurance carriers to purchase supplemental protection for high-severity, low probability events. Specifically, they are risk-linked securities that transfer a defined set of risks from the insurer to investors through fully-collateralized special purpose vehicles.²¹ Historically, catastrophe bonds were structured to offer high yields that attracted investors with higher-risk appetites. Original catastrophe bonds only covered a single peril but now they may include a multitude of perils. Catastrophe bonds can be structured as investment-grade by offering credit enhancements such as over-collateralization or “wrapping” it with a financial guarantee from third party insurers. These techniques have opened the asset class to a new and larger segment of investors. Key investors in catastrophe bonds include hedge funds, life insurers, reinsurers, banks, and pension funds.

Contingent Capital contracts are financing agreements arranged before a loss occurs. Should a named-event occur, the financier provides the insurer with capital determined by the amount of catastrophic loss. The terms of the deal are arranged during a prior time of normalcy when the borrower can negotiate to access funds at favorable rates. If no catastrophic events occur, there is no exchange of funds.

Industry Loss Warranties are reinsurance contracts whose payouts are linked to a predetermined trigger of estimated insurance industry losses. They are swap contracts that are based on insurance industry indices rather than insurer actual losses. Payment of the warranty is made based on whether the covered insurance industry suffers a predetermined level of loss due to natural catastrophes.

Reinsurance Slicars are limited purpose companies created for solely to work in tandem with reinsurance coverage provided to an insurer. Slicars are capitalized with debt and equity financing from the capital markets and are liable for only a portion of risk underwritten. Thus, slicars allow insurers to write more policies while limiting their liabilities. Unlike traditional reinsurance, slicars are privately financed, they dissolve after a set period of time, and the risks are defined and limited.

Catastrophe Futures are futures contracts used by insurance companies as a form of reinsurance. The value of a catastrophe futures contract is determined by an insurance index that tracks the amount of claims paid out during a given year or time period. When catastrophe losses are higher than a predetermined amount, the futures contract increases in value and vice versa. When catastrophe futures began trading on the Chicago Board of Trading (CBOT) in 1992, many felt this would usher in greater sources of external capital to reduce traditional reinsurance volatility and information asymmetries. Following early attempts to create viable trading platforms that failed due to lack of investor interest, several exchanges²² are again attempting to create a market for exchange-trade catastrophe derivatives. Despite ebbs and flows in their trading, catastrophe futures helped usher in the era of insurance derivative contracts and capital market alternatives to traditional insurance and reinsurance approaches.

Insurance Derivatives derive value from the value of financial instruments, events, or conditions. A few examples of derivatives include put and call options, forward and futures contracts, swap contracts, and credit default swaps. Derivatives offer investors the advantage of instant liquidity, plus they enable investors to gain exposure to underlying risk classes that may not otherwise be tradable. They also allow hedging or transferring of risk positions. Speculators use derivatives with the goal of profiting off of directional price movements. Derivatives are designed to have large payoffs and tend to be highly leveraged. Small changes in the underlying asset can lead to large price swings. Derivatives not traded on an exchange have increased risk of counter party default. The attractiveness of insurance derivatives is that they shift risk more efficiently than institutional methods, avoid contractual costs of traditional insurance and reinsurance methods, lower informational asymmetries, and create liquid markets for trading.²³ When derivatives are successful, they add liquidity to both the synthetic and physical markets thereby reducing the cost of hedging and other risk management programs. Derivatives allow insurers to purchase protection for new pools of investors. However, the use of derivatives has received heavy scrutiny following their role in the collapse of the financial markets. Derivatives are often leveraged and can be used to take large positions that can lead to large gains, but also large losses. There is also concern over derivatives’ ability to artificially influence price movements of the underlying securities.

B. Life Insurance-Linked Securities

The market for securities related to life insurance through longevity/mortality is small but is developing with strong demand on both sides of the transactions. Uncertainty surrounding future life expectancies is fueling institutional demand, while exposure to uncorrelated risk is attracting capital market investors.²⁴ Life insurance-linked securities include:

Value in Force (VIF), or embedded value transaction, securitizes the projected future cash flows from of a block of policies. VIF securitizations are a form of debt financing that allows insurers to remove a block of business from their balance sheets and transfer the risk to the capital markets. VIF securitizations are most appropriate when insurers demutualize or wish to accelerate the earnings from a block of policies.

Reserve Funding Securitizations are a means for insurers and reinsurers to supplement regulatory reserve requirements that are considered to be in excess of what's economically necessary by securitizing the underlying block of policies.

Extreme Mortality Bonds are an alternative form of risk transfer for life insurance and reinsurance, and can significantly impact the liabilities of insurer and reinsurer portfolios. Mortality bonds are specific insurance-linked securities that enable the issuer to protect itself from large deviations in longevity or mortality. Extreme mortality bonds are used as insurance against pandemics and epidemics, but eventually the asset class may open up to include many more forms of mortality.²⁵ These bonds are structured similarly to other asset-backed securities, with deviations in mortality serving as the trigger.

Bulk Annuity Buy-Outs allow a defined benefit pension sponsor to absolve itself from responsibilities stemming from the accrued liabilities of the pension members. A third-party insurer, or investor, receives an up-front premium to assume the liabilities related to the pension buy-out. The market saw many new entrants in the mid-2000s because returns from the equity markets could easily cover the assumed liabilities. The resulting increased capital flows opened the market to larger pension schemes resulting in larger transactions. However, when the equity markets created in 2008 and investments in sub-prime assets soured, many market participants were forced to leave the space. Given the 2010 economic climate, activity has ceased and it is uncertain if the market will ever recover to its past form.

Longevity Swaps transfer longevity risk of pension schemes and insurers to capital market investors. A common transaction involves a pension scheme exposed to increasing mortality improvement that wishes to transfer the mortality extension risk to another party. The pension scheme receives a fixed amount based on the expected mortality and makes variable payments based on the actual mortality.



6 Insurance-Linked Securities from the Investors' Perspective

Investors are attracted to the diversification benefits and above average yields of insurance-linked securities. Returns of insurance-linked securities are independent of factors affecting traditional financial markets and their returns typically exceed similarly rated investment assets. However, investments in insurance-linked securities expose investors to risks that aren't typically associated with traditional investment classes.

A. Insurance-Linked Securities Weak Correlation to Traditional Financial Markets Benefit Investors

The global financial crisis proved that many alternative asset classes, once thought to be uncorrelated to the traditional financial market, did indeed carry varying degrees of systemic risk. While some sectors were minimally affected, other sectors did not fare as well. Prior to the financial crisis, some insurance-linked securities utilized certain credit enhancements such as "wraps" or "guarantee swaps" to augment the credit rating of the security. These enhancements often removed much of the insurance risk and left investors exposed only to the risk that the investment bank issuing the credit enhancement would default. Previously, this risk was thought to be negligible. However, the collapse of Lehman Brothers proved that the magnitude of this risk was much greater than most imagined possible.

After the financial crisis, many insurance-linked securities re-emerged with improved structures to limit the amount of counter-party risk. The strength of the re-emergence proved that concerns related to ILS were based on how they were structured and not the underlying assets. The International Association of Insurance Supervisors (IAIS) concluded that although the insurance sector is susceptible to systemic risks generated in other parts of the financial sector, there is little evidence to suggest that insurance either generates or amplifies systemic risk within the financial system or in the real economy.²⁶

The weak correlation of these financial instruments with traditional financial markets enables investors to achieve greater portfolio diversification and the higher yields.



B. Insurance-Linked Securities Carry a Variety of Risks.

Insurance derivatives and other financial instruments are designed to transfer or hedge primary and secondary insurance risks amongst capital market participants. The appropriateness of these alternative risk transfer strategies depends on the situation and the size of the reinsurer. These risks include:²⁷

Liquidity Risk is the uncertainty that results from one's ability (or inability) to buy or sell an investment.

Basis Risk – occurs when the cash flows from the hedging instrument do not perfectly offset the cash flows from the instrument being hedged.

Moral Hazard – occurs when one party transfers risk to another party, and the party ceding the risk has less incentive to ensure that the risk is managed as efficiently as possible.

Adverse Selection – is when both sides of the transaction do not have access to the same information. Asymmetrical information gives one party an advantage over another party. With regards to insurance-linked securities, hedging instruments are typically priced at the average risk level of the entire industry. However, insurers know the true value of the underlying risks embedded within the instruments. This adds incentives for insurers or reinsurers with exceptionally high risk policies, relative to the industry, to transfer those risks to the capital markets.

Credit Risk/Counterparty Risk – is when the counterparty to a transaction may not be able to honor their side of the obligation due to financial hardship or other causes.

A challenge to alternative risk transfer between the insurance and capital markets is the asymmetry of information among market participants. Information asymmetry often leads to adverse selection and moral hazard. Normally, securitization of risk is successful when the capital structure allows for an equal playing field amongst risk transferors and risk takers. However, information asymmetry prevents risk takers from confidently assessing and pricing the underlying risk, and may deter them from participating in the insurance-linked security market, or cause them to leave the market during times of financial unrest, as witnessed by the 2008-2009 financial crises.²⁸

C. New Financial Regulation May Contain Exemptions for Insurers

Going into the summer months of 2010, it is apparent that changes to financial regulations are imminent. In the United States, both the House of Representatives and the Senate are in the process of reconciling different versions of a Financial Reform bill. The issues most affecting insurance companies involve language that requires stronger restrictions on derivative trading, and the authority of the proposed Office of National Insurance (ONI) to preempt state law in negotiating bilateral trade agreements with foreign countries.²⁹ The ONI would monitor insurance companies and recommend stronger oversight of a potentially risky insurer. The ONI would also serve as a federal clearinghouse for financial data relating to insurer solvency.

Members of the insurance industry expressed concern regarding one of the bill's more controversial subjects: forcing those deemed to pose a systemic risk to the economy to help pay for the liquidation of failed financial institutions. Congress is considering creation of a bailout fund that would assist in the liquidation financially failed firms. Those deemed to pose a systemic threat would be required to deposit capital into the fund where the capital would sit until needed. However, regulators are considering exempting insurers from this bailout fund. Moreover, the industry also hopes to win clarifying language in the bill to ensure that insurance companies would be subjected to federal oversight only under extremely limited conditions.³⁰ Additionally, recent developments have led to insurers winning exemption from the Volcker Rule which prevents U.S. financial institutions from proprietary trading or investing in hedge or private-equity funds.

The financial regulation bill also contains provisions for the use of derivatives by bank and non-bank institutions. The over-the-counter derivatives market exploded from \$91 trillion in 1998 to \$592 trillion in 2008. Over-the-counter derivatives were originally used as a hedge to neutralize risk. However, over time these instruments became a way for traders to make large bets with no regulatory oversight or rules and ultimately played a large role in the collapse of Bear Stearns, AIG, and Lehman Brothers. Proposals for derivative reform include centralized clearing houses and the elimination of over-the-counter derivatives in favor of exchange-traded derivatives. Uncleared swaps would be subject to margin requirements, and swap dealers and major swap participants would be subject to capital requirements. Opponents argue that the ability to customize derivatives allows financial institutions to construct better hedges for their risk positions.

Insurers are large users of derivative contracts and Frank Zhang, executive director of the insurance and actuarial advisory services practice at Ernst and Young's Financial Services Office, said that a complete ban on trading of derivatives by an insurance company would generate "significant changes in how insurance companies do business. The life insurance



business will be a different industry.”³¹

The issuance of insurance-linked securities by insurers would most likely not fall under the derivate provisions in the current form of the bill. However, the limitations imposed on banks and other financial entities may limit their ability to invest in certain insurance-linked securities. This could dampen global demand, thus limiting the pool of available investors. Even though many investors have only made a small foray into the insurance-linked asset class, as they become more sophisticated and comfortable with insurance-linked securities, the allocation of their portfolios to this asset class should expand, leading to greater investment and growth for insurance-linked securities.

7 Summary

The convergence of the insurance and capital markets has created an alternative channel for insurers to transfer risk, raise capital, and optimize their regulatory reserves. It also offers capital market investors a source of relatively liquid investments with limited correlation to the traditional financial markets. Without insurance-linked securities, insurers would be forced to hold more capital in reserve, carry greater amounts of risk on their balance sheets, and expose insurers to the volatile price fluctuations of the reinsurance market. This would limit their financial flexibility to move into more profitable lines of business, and would deprive investors from an alternative asset class that offers many diversification benefits and returns that are historically above similarly-rated structures.

Parts II and III of the I/C Convergence Series cover the non-life and life utilizations of insurance-linked securities. Specifically, they address how the various individual sectors of insurance-linked securities have been impacted by the global financial crisis and their market potential for the years ahead. Parts II and III describe how insurers, reinsurers, capital market investors, and government agencies can use insurance-linked securities to strengthen their financial positions and reduce the amount of risk in the financial system.

- 1 American Council of Life Insurers, 2009 Life Insurers Fact Book, 2010.
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