Insurance and the Capital Markets*

Jozef De Mey

Fortis, Rue Royale 20, Brussels BE-1000, Belgium.

E-mails: jozef.demey@fortis.com, frank.dausy@fortis.com

Disintermediation with respect to the transfer of insurance risk is still very much a market in development, unlike in banking where risk transfer to the capital markets through securitization has become a widely used financial technique. Reinsurance will continue to play a dominant role, but gradually we see how innovative securitization instruments are brought to the market, in non-life and in life. The main issues to overcome to make securitization a more widely used financial technique are the lack of transparency and consistency in modelling insurance risks. Enhanced standardization and liquidity will be crucial for the success of insurance risk securitization.

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Introduction

In this paper, we focus on the growing interaction between insurers and the capital markets with the purpose of transferring insurance risk to institutional investors. In this interaction, we distinguish two dimensions: a financial dimension relating to the optimization of the capital structure and strength (capital raising) and a more insurance-specific dimension (insurance risk transfer, resulting in capital relief).

Capital raising

Most of the capital market deals for insurance companies are still primarily financially driven. To strengthen their capital position, companies can raise equity or debt, and more recently also hybrid capital. The insurance sector is capable of raising substantial amounts of equity in the market. Moreover, the access to the debt markets has improved substantially for insurers over the last few years.

The market has gained a better insight into the credit risk for insurers. Pricing of senior debt transactions has become a more standardized practice. Overall, the credit spread of debt transactions in insurance is fairly similar to the credit spread in banking. Where in the past, insurers without a strong credit rating had to rely on reinsurance, they can today more easily issue debt in the market place.

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Hybrid capital is being raised in all different sorts and formats, with the quality of the hybrid capital covering the broad area between equity and bonds. Hybrids make up for a large part of the primary capital market transactions in insurance.

The structures of the deals are still very much governed by national legislations and regulators. Some structures are not allowed in certain countries and similar structures can have very different tax implications, impacting the returns for issuers (and investors).

National regulators and rating agencies set their rules for the level of acceptance of hybrid financing. These rules are still evolving. Generally, a 15 per cent level is accepted; however, there are examples of a higher level of acceptance. This necessitates a permanent and constructive discussion between the insurance industry, the regulators and the rating agencies.

Growing convergence in capital raising and regulation

With growing integration and linkage of markets, cooperation between supervisors is a natural prerequisite of international streamlined processes.

Whereas in the past regulation in banking and insurance developed independently of each other, today we observe a clear convergence process. More countries are combining the banking and insurance regulatory function into a single regulator. This will provide a more level playing field between banks and insurance companies.

For a more level playing field in insurance, collaboration between the respective national regulators is essential. The European Commission recently created CEIOPS, the Committee of European Insurance and Occupational Pensions Supervisors. It is composed of high-level representatives from the insurance and occupational pensions supervisory authorities of the European Union's Member States. The authorities of the Member States of the European Economic Area also participate in CEIOPS.

In early 2006, 10 European insurance groups reacted jointly on the 12th Consultation Paper issued by CEIOPS, on the treatment of deeply subordinated debt. Their reaction once again demonstrated that the European insurance world is actively supporting the creation of level playing fields, across banking and insurance and across national borders. Core capital rules for insurance companies should be brought in line with the core capital rules for banking institutions.

CEIOPS also recently signed a Model Memorandum of Understanding with NAIC from the U.S., the National Association of Insurance Commissioners, which will provide U.S. and European insurance regulators with a valuable tool for addressing the proper supervision of members of transatlantic insurance groups.

The implementation of Solvency II will, going forward, undoubtedly create more consistency and transparency in the insurance industry and also result in more stringent risk-based capital requirements.

The insurance risk transfer: capital relief through securitization

Unlike in capital raising and structuring, where banking and insurance are steadily converging, banking and insurance still differ massively in the use of securitization.

In the U.S., mortgage or asset-backed securities already represent one-third of total banking assets with a massive amount outstanding reaching nearly USD 3,000 billion. In insurance on the other hand, the total amount outstanding worldwide is about USD 10 billion.

Securitization in banking aims at transferring the risks linked to certain assets to the capital markets, whereas the risks to transfer in insurance are typically linked to liabilities.

Through the securitization of insurance risk, an insurance company transfers underwriting risks to the capital markets by transforming underwriting cash flows into tradeable financial securities. The cash flows resulting from the securities issued are contingent upon an insurance event or risk.

When an insurer underwrites a risk, he has to decide on the adequate pricing of accepting that risk. Risk acceptance has immediate consequences for the capital structure of insurance companies. Each insurer has to balance through his capital management the interests of his stakeholders (policyholders, shareholders, bondholders, regulators) and his risks with his solvency. When the insurer accepts a risk, he can decide to keep the risk on his books, or pass (part of) the risk on to his reinsurance providers.

In 2004, the insurance industry ceded 11 per cent of its non-life premium income to the reinsurance sector, against 2 per cent for life premium income. Reinsurance companies collected in 2004 nearly USD 168 billion of premiums, 80 per cent of which were in non-life and 20 per cent in life.

More recently, insurance companies started using risk securitization techniques for transferring insurance risk to the capital markets. In general, the capital markets have the potential to help the insurance market by providing additional capacity beyond what is available from the reinsurance market. The overall reinsurance capacity is set by the access of the reinsurers to the capital markets.

The insurance risk transfer to the capital markets is still very much a market in development. Insurance securitizations are in fact complementing the traditional reinsurance.

Property/casualty catastrophe bonds were introduced in 1995 because of rising reinsurance costs for natural catastrophes. The large insurance company losses in 1992's Hurricane Andrew and 1994's Northridge earthquake have convinced the insurance industry that a way to spread the risk of infrequent but extreme losses outside of the insurance industry was needed. Since then, insurance companies have become more comfortable with using the capital markets as an alternative solution for reinsurance.

So far, CAT bonds are the most developed insurance risk transfer instrument, but outstanding amounts remain modest. About half of the catastrophe bonds outstanding have trigger criteria based on objective parameters, such as wind speed or earthquake force. These triggers are often set at a "once in a century" probability level. The other half of the outstanding bonds are indemnity bonds: they pay out according to actual reported insurance losses.

In non-life, we notice that the market is developing from only risk transfer relating to infrequent but extreme losses to also risk transfer relating to the impact of sudden

changes in loss patterns on books with smaller and more frequent losses. A pioneer was AXA, which released capital from its balance sheet by selling in 2005 EUR 200 million of bonds covering the risk of deterioration in the losses in a French motor book. It was the first motor insurance securitization to be rated by Standard & Poor's and, excluding catastrophe bonds, the first insurance securitization in France.

This transaction was followed by a EUR 252 million deal from Swiss Re that allowed the Swiss group to buy protection in the capital markets against unexpected losses on its reinsurance of trade credit, such as might result from an economic downturn.

In life, only a limited number of transactions were brought to the market, most notably the closed block transactions in the framework of a demutualization (Prudential in 2001 and MONY in 2002).

Life securitization is expected to develop in the following areas: capital release through embedded value securitization, financing of new business activities, product-specific applications, mortality and longevity risk.

Embedded value deals provide insurers with the opportunity to unlock the embedded profits in blocks of life insurance presently carried on balance sheet and to provide an alternative source of financing in an industry where traditional financing mechanisms are often restricted due to regulation.

The essential objective is to sell the future profit stream without going through the sale of the life book. Unlike other alternative risk transfer devices, this securitization is not essentially a risk transfer device – it is predominantly a device to monetize the profits inherent in already-contracted life insurance policies. In the securitization deals that hit the market to date, the transfer of value still prevailed over the transfer of life risk.

In the U.S., some regulation-driven securitization deals were launched. Regulation XXX (“Triple X”) requires redundant excess reserves on certain types of term life insurance policies with long-term premium guarantees. In July 2003, the First Colony Life Insurance Company, a subsidiary of GE Capital, concluded a USD 300 million deal through an SPV, River Lake Insurance Company, to obtain reserve relief under Regulation Triple X.

Longevity risk – the paradoxical risk of living too long – is becoming a major challenge for insurers and pension funds. What is important is not the average life expectancy but rather the life expectancy past the age of retirement, when workers cease to be economically active. And it is among this population that life expectancy is rising fastest. While annuity providers and pension schemes have risk management tools to protect them from adverse movements in markets and rates, there are no tools to shield them from rising life expectancy.

The fundamental problem for making longer plans for the future is that there is no certainty about the life expectancy going forward. Some scenarios predict a life expectancy by 2050 of 90 years or more, whereas in other scenarios with less optimism about the progress of medical science or because of new threats or social developments, the life expectancy would be at 80 years. Longevity also varies widely with socio-economic group and geography.

So far, financial markets solutions to longevity risk remain very modest. In November 2004, the European Investment Bank launched together with BNP Paribas a longevity bond that would make annual payments for up to 25 years based on an index representing the number of men in England and Wales, who were 65 years old at the time of the bond's issue and who were living at each payment date. Unfortunately, the issue had to be cancelled because of a lack of investors' interest.

Swiss Re successfully issued a longevity bond in 2003 with a three-year maturity. This bond offered investors a relatively high floating coupon payment in return for accepting the risk of reduced principal payment in the event of catastrophe mortality deterioration such as that associated with the Spanish flu pandemic of 1918. This transaction was repeated by Swiss Re in 2005 (with a five-year maturity).

Before longevity can be traded, it should be adequately measured. Credit Suisse recently launched a Longevity Index, compiled from publicly available U.S. government data that includes both historical and forward values. The main index represents expected average lifetime for women, men and a composite of both. To make the date more flexible and tradeable, sub-indices of attained ages of 50, 55, 60, 65, 70, 75 and 80 show expected average lifetime of the different age groups.

Insurance risk transfer going forward

Overall, the effective insurance risk transfer to the capital markets is still very limited. We can say that securitization in insurance is in its experimental development phase, comparable to where the banking industry stood some 20 years ago. The limited number of transactions makes it difficult to establish a broad investor base that is sufficiently familiar with the specificities of holding insurance risk.

Despite the relatively small volume of insurance securitization transactions to date, securitization has significant potential to improve market efficiency and capital utilization in the insurance industry.

Securitization creates the possibility of separating the insurance policy origination function from the investment management, policy servicing and risk bearing functions, thereby enabling insurers to make a more efficient use of their capital resources.

For longevity risk, an interesting case could be made for offsetting the opposite impact of mortality improvements on annuity providers and life insurance providers. If longevity risk is to be traded successfully in the capital markets, market participants with opposite interests are essential.

Securities based on catastrophic property, mortality and longevity risk are non-redundant: the covered events are not otherwise traded in the securities markets. Securities based on these risks also are likely to have relatively low covariance with market systemic risk, making them valuable for diversification purposes. Investors can improve portfolio efficiency by adding these securities to their portfolios. But the market may continue to grow slowly as the more complicated transactions require substantial time, cost and energy.

Traditional reinsurance will continue to play a very important role in the insurance industry. Reinsurers add value by providing underwriting expertise, pricing efficiencies and flexible risk-transfer solutions for insurance companies.

By using securitization, reinsurers can concentrate on offering products with higher risk-adjusted returns in conjunction with well-understood and manageable risks and they can take advantage of innovations in the capital markets to broaden or improve their product offerings.

Conclusion

It is clear from the above that a lot still has to be done in order to be able to transfer insurance risks in a more significant way to the capital markets.

Making the insurance securitization market more liquid will require more issues on the market, since broadening the investor base is crucial to move from essentially a private placement market today towards a public market place tomorrow. Effective pricing of insurance risk also requires the development of sound risk-based capital models.

The Group of Thirty recently published a research document titled *Reinsurance and International Financial Markets*. The document gives an up-to-date overview of this market.

The research clearly identified eight specific impediments to securitization:¹

- legal issues,
- contract standardization,
- data and modelling,
- risk disclosure,
- lack of appropriate indices,
- transaction costs,
- rating caps,
- recourse.

We believe that the main issues to overcome are the lack of transparency and consistency in modelling insurance risks. Enhanced standardization and liquidity will be crucial for the success of insurance risk securitization.

Reference

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About the Author

Jozef De Mey (Belgian, 1943) has acquired a very comprehensive knowledge of the insurance sector both as an actuary and through his professional career. Before coming to work at Fortis in 1990, he was Chairman of John Hancock International Services and Senior Vice-Chairman Europe. Between 1990 and 1995, Jozef De Mey

¹ Group of Thirty (2006, pp. 41–52).

was General Manager of Fortis International. In 1995, he was appointed CEO of Fortis AG. He has been a member of Fortis's Executive Committee since September 2000 and has been responsible for Insurance Belgium since 28th January, 2005. At the same time, he became Chairman of the Management Committee of Fortis Insurance N.V. Today, he is Chief Investment Officer of Fortis. Jozef De Mey graduated as an Actuary from the University of Leuven (1968), after graduating in Mathematical Sciences from the University of Ghent in 1965.