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The Coming Movement in Life Insurance Securitization

by Ed Betteto

This article has focused on motivation and trends rather than mechanics. Those interested in details are welcomed to contact the author.

The role of capital markets in the life insurance industry has been much discussed over the past few years. Insurance securitization efforts have to-date been primarily directed at catastrophe risk attracted by the margins of this low frequency/high severity business, particularly in the upper layers. An additional motivation for this attention was a perceived lack of capital to deal with a large catastrophe, with the attendant price increase that historically followed such an event.

Attention has now turned to insurance business characterized by large pools of small relatively homogenous

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In This Issue

Enterprise Risk And Capital Management

by Joan Lamm-Tennant, Ph.D.

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Efficient employment of capital throughout the insurance enterprise is a dilemma that most managers consider complex, yet critical to success. Capital efficiency suggests that operational and financial opportunities collectively result in maximum expected return, subject to the enterprise's risk tolerance. ERCM is an analytical framework for determining the efficient employment of capital across the enterprise while maintaining an appropriate balance between the insurer's risk appetite and its desire to earn attractive returns for its policyholders, shareholders or club members. ERCM is built upon a foundational premise that each component of capital is related and must be considered in the context of an overall portfolio of the insurer's capital management initiatives. That is, operational and financial opportunities in essence become a "portfolio" of choices whereby the effectiveness of any one choice is dependent upon the alternative choices. For example, appropriate asset allocation is dependent upon the business mix, leverage position, dividend policy and reinsurance strategy. Likewise, the appropriate reinsurance strategy is related not only to the business mix but also to the asset allocation choice, leverage position, and dividend policy.

When allocating capital to achieve optimal financial/operational results, managers must identify the metric for evaluating success: accounting or economic. For example, some companies monitor success in terms of GAAP return on equity or growth in GAAP surplus, while other insurers consider economic measures such as shareholder-

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LOMA Collaborates on New Reinsurance Designation

by Edward T. Burns & Jennifer W. Herrod

As reinsurance has become critical in managing the bottom line, insurance companies need educational tools to help them better understand reinsurance processes and procedures. LOMA, in conjunction with LOMA's Reinsurance Administration Professionals Committee (RAPC), has developed a unique program to fill that need.

Not only do many hands make light work, many industry specialists also enhance LOMA's ability to create high-quality materials for professional education and development. Recent collaboration between LOMA and a newly formed industry committee has functioned well to guide the development of two unique products designed to offer the whole industry a better understanding of the inner workings of reinsurance-insurance that transfers risk from one insurer to another.

The first of these products is a new StepOne text entitled *Intro to Reinsurance*, which is designed to introduce the basic concepts of reinsurance. The second product, *Reinsurance Administration*, is a full-length textbook to be used as the basis for the cornerstone course in a new associate-level program leading to the professional designation, Associate, Reinsurance Administration (ARA). Students can earn the ARA by completing six LOMA courses (see page 15). e concerns, problems, and solutions.

The Growth of an Industry Initiative

The new reinsurance education products became possible through a concerted industry effort begun years ago by the ives representing many prominent rein-

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risks such as life insurance. The driving force for an entry of the capital markets into the life insurance industry are somewhat different than those motivating securitization in the catastrophe market. There is no lack of capital in the industry, although some regulators may take issue with this statement. The logic behind the trend toward life insurance securitization lies in price efficiency. Given the right conditions, the capital markets can hold insurance risk more efficiently than an insurance company.

To maintain its ratings and attract customers and intermediaries an insurance company is compelled to hold certain levels of capital on its balance sheet, including the level of conservatism required by regulators in their liabilities. These capital requirements make it very difficult to earn competitive rates of return on capital for many core products.

Historically there has been less pressure on returns for the powerful mutual companies than existed for stock companies, with the argument that much of a mutual company's profit is distributed in its policyholder dividends.

Recently mutual companies have been incented to measure themselves according to standards that can more easily be understood by the outside world. Among other factors, their boards are paying more attention to performance and rating agencies have been including earnings standards in their rating reviews.

In this environment having too much capital can be a problem rather than an advantage. Many view the demutualization movement as necessary for mutual companies to gain access to more capital to fuel acquisitions. For the survivors in the end game of the consolidation currently underway, this will indeed be the case. However demutualization will also provide a means to distribute excess capital to shareholders. Just as in other industries, shareholders will demand a return of capital that is not deployed efficiently.

Similar forces have led to alternative solutions displacing traditional products in other areas:

- Mutual funds vs. bank deposits
- Debt instruments vs. bank loans
- Self insurance vs. traditional health or commercial insurance
- Asset backed securities vs. financial institution balance sheets

Conditions for Success

Thus far, life insurance securitization has been intellectually appealing but in practice there have been barriers that have prevented transactions from being completed.

Probably the most challenging hurdle is the creation of an industry standard for claim assumptions. The industry tables compiled by the actuarial profession are dated; historically a benchmark table that is 10 years old in an industry where underwriting standards varied only modestly with time would suffice. However there has been rapid recent development of underwriting techniques that have allowed the nimble to cherry pick risks, leaving the less nimble with a below average profit margin as insurance brokers and agents selectively place each customer with that insurance company most competitive in particular risk classes.

There is more variation in underwriting standards by company than has existed before, making claim forecasting more difficult. While the examination of historical claims experience for a particular underwriter remains a valuable tool, it takes time to assess the results of new underwriting standards even at large writers, due to low claim expectations for newly underwritten lives. Even if early select experience is credible, there remains the decision as to how much the superior selection of risk is worth as people age and as more years pass from the date of selection.

An additional issue exists in that important underwriting information is often not captured in electronic form, making mortality forecasting more difficult for existing business. If emerging experience for a particular book of business could be supported by demographic information, a bidder for the business

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could be more aggressive than would be the case without such information. There is increasing evidence of the powerful effect of certain demographic characteristics on mortality rates.

Despite these challenges, conditions are right for the development of standards that can be trusted by non-practitioners. The significant recent improvement in mortality, supported by industry studies, population mortality studies, social security mortality, medical research and by insurers own mortality studies, has provided reinsurers with the motivation to increase the rate at which they forecast mortality improvement in the bid for more business.

The challenges are not dissimilar to those posed in the early days of securitization in the mortgage market. Twenty years ago the prepayment rate of long-term mortgages by zip code was proprietary information; today this information is contained in published indices. As happened with prepayment modeling in the mortgage market, the electronic revolution will facilitate the development of more accurate forecasting of cash flows in life insurance blocks of business.

Several months ago the *National Underwriter* published an article entitled "The Coming Changes in Life Insurance Risk Management." One of the themes of this article is the rapid conversion of medical records from paper to digital format in the health care industry and the use of such information in the underwriting of insurance applications. While the article was about a revolution in life insurance underwriting, the existence of demographic, medical and other underwriting information in electronic form will also facilitate a dramatic change in how life insurance cash flows will be valued. Privacy advocates will be concerned about an insurer passing such information on to another party. Processes to ensure that no names pass hands will likely mollify them.

A second condition for success is an efficient platform to transform insurance risk into capital market instruments. An early barrier to U.S. transactions has been acceptable accounting treatments for the insurance companies. Early transactions in the catastrophe market have used Special Purpose Vehicles to conduct the transformation. In the life insurance business, the transforming entity is more likely to be a legitimate reinsurance company, albeit domiciled offshore to provide the flexibility to conduct the transformation.

A third condition for success is for the transformation to be conducted by a brand name with a track record in securitization. Investors will want comfort to participate in a new asset class; the knowledge that the transformer has a stake in being accurate with the cash flows will be important. Investors will also want to know that the business has been modeled according to standards developed in the formation of other asset classes such as mortgage securitization.

The last and perhaps most important ingredient is high ratings for the instrument—the rating agency "seal of approval." Dependable cash flows will be critical in obtaining such ratings.

Lehman Brothers has been a pioneer in the formation of other new asset classes, notably mortgage securitization. In preparation for the coming market in insurance securitization, the firm has dedicated 500 Million USD in capital to Lehman Re Ltd., a new reinsurer domiciled in Bermuda. Lehman Re is licensed for both property and casualty reinsurance, as well as life and annuity reinsurance. The team that has been formed to support this initiative is comprised of professionals from both the capital markets and the insurance markets. The cross-training that began several months ago is an important step in providing customers with seamless transactions rather than the sometimes awkward handoffs than can exist between different industries.

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The Early Days

As was the case with the creation of other asset classes, the trend towards life insurance securitization will be an evolution rather than a revolution. Observers in the industry know that mortality risk has been shifting in large volumes from insurers to reinsurers over the past few years. If reinsurers are right in their mortality forecasts and are taking advantage of their R&D focused on mortality projection, then one can view this movement as one step in the evolution of insurance risk away from the insurance company platform. Most large reinsurers possess platforms that give them some, but not all, of the advantages afforded by securitization.

Early transactions will likely focus on books of closed business with established histories of mortality and lapse rates because the supporting documentation will help build confidence in the projected cash flows. These books will also be judged by the transformers to have characteristics that strongly suggest favorable future mortality. While investors will likely only accept projections based on sound data, the transformer will attach a further value to the upside associated with the possibility that mortality may be lower than that forecasted in the securitization cash flows. This upside could be sold to institutions who want to make a leveraged play on mortality. In addition to the long secular improvement in mortality, there is the possibility of any of a number of significant medical breakthroughs that

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are exciting the medical community and will make big winners of anyone "long" on mortality. When insurance companies write life insurance policies, their profit is of course affected by how actual claim rates compare to projected claim rates. The upside has historically been owned by the entity holding the downside risk. In a securitization, the downside is going to be carved into pieces with some of it held by investors in a corridor above expected (the junior tranch), some by another group of investors in a corridor above this (the senior tranch) with the balance being held in the "catastrophe layer" that covers the possibility that claim rates may be high enough to eliminate the principle of both the senior and junior bonds. When the cash flows have been separated in this manner, the possibility of profit stemming from actual claim rates being below forecast can be sold separately.

Lehman will use its proven abilities to tranch cash flows to direct risk to those entities most comfortable with the risk/reward profile for each tranch. This approach has created pricing efficiency in several other industries. One of the more interesting financial instruments could provide, for a lump sum consideration, the difference, if positive, of expected claims less actual claims. Entities who want to place a bet on a breakthrough of much longer lifespans will be attracted to this "upside instrument."

The End Game

If an asset class for life insurance risk is successfully developed, what of the roles for insurers and reinsurers?

Insurance companies have already been reshaping their business as evidenced by the active merger and acquisition activity and as documented in numerous articles over the past few years. The challenge of being world class in a series of core competencies in order to successfully compete in all their existing businesses is likely to be met by only a few outstanding companies.

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Many see their ultimate roles as one or two of 1) managing customers, 2) sourcing business, 3) administration, 4) product development/manufacturing. In the first two categories, entities such as the large retail brokerage houses that control tens of millions of customers must be seen as ultimate competitors, in which case, some areas of focus should be shed to concentrate management attention. In the last two categories there will be room for only a few large players and the niche companies. Here again, concentration on core competencies is of the essence.

There will always be room for reinsurers who are astute in forecasting mortality. I am sure that some of them are confident that transformers will not beat them at their own game. In any case the capital markets will not be suitable for some of the risk present in insurance portfolios especially in the early days.

Reinsurers will be natural partners for those interested in participating in the evolution. Some may be highly interested in particular cash flows created by a transformer like Lehman Re because of the leveraged plays on mortality available. By shedding the capital associated with the corridor of risk absorbed by the investors, reinsurers could significantly increase their return on capital.

Conclusion

The early days of the life securitization market are going to be challenging and exciting. The path to success is anything but a six-lane highway. It's more like a rock-filled winding narrow path down a steep mountain aboard a stubborn mule. I wouldn't want to be doing anything else.

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