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WHAT'S THE BEST REINSURANCE ARRANGEMENT FOR MY COMPANY?

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This teaching session will present items to consider when implementing new or revising existing reinsurance arrangements.

MR. HODGDON: I am from Life Reinsurance. Al Dal Porto is from CIGNA Reinsurance. Al is a reinsurance actuary for life products.

We thought we'd take a little different approach to this teaching session. Mike Roscoe, who was put in charge of looking for panelists, basically said that we could have carte blanche, and we are taking him up on that liberty. Because this is, in essence, a teaching session, we want to outline for you some of the methods that are routinely used for reinsurance as well as those that you may not have been exposed to. Al and I will each make a presentation on our respective ideas and thoughts.

The best reinsurance arrangement is one that meets the company's objectives. It sounds relatively simple, but it's one that I think we all need to focus on. Reinsurance is needed for several reasons: (1) to aid in new sales from primary or direct writing companies; (2) because of regulatory pressures; (3) because of the flight to quality, related to new risk-based capital (RBC) rules; and (4) because of new product development, international expansion, and persistency protection. Life reinsurers deal primarily in mortality risk, which is highly predictable. It is not an exact science, but it is far more a science than an art. Mortality risk is predictable over the long term, but quarterly or even cyclical fluctuations must be expected and differentiated from long-term trends.

Therefore, reinsurance can present many solutions for a direct ceding writer. For instance, in the older-age market, the demographics of an aging population are such that there must be a sharing of the older-age risk due to the lack of critical mass. The demographics are as follows: the 45–75 age bracket is expected to grow 58% between 1995 and 2020. The age bracket of 18–44 is only expected to increase 5%. Also, there are RBC and rating agency concerns as to the solvency of the insurance carriers. The third concern is the growing need to protect wealth from the tax man. And the last is what I consider the emerging markets.

I tend to look at life reinsurance as having three intrinsic values: (1) it strengthens the capital and surplus positions of primary companies; (2) it expands capacity; and (3) it smooths claim fluctuations and stabilizes earnings.

I would like to look at reinsurance techniques. Proportional reinsurance has claim sharing as determined in advance of the claim. The calculation is clear. There are two types: quota share, which is a shared risk on each policy, and excess share, which is the policy ceded above the ceding company's retention.

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As far as proportional reinsurance is concerned, there is the old reinsurance standby, yearly renewable term (YRT), sometimes known as risk premium reinsurance (RPR), which can be aggregate or select and ultimate. Then there is coinsurance, and there you have the expense and the commission reimbursement as well as transfer of surplus strain, reserves, and mortality risk.

Modified coinsurance (MODCO) has no reserve transfer. The increase in reserve is due the reinsurer. The ceding company pays interest on the reinsurer's portion of the reserve.

I want to talk about the types of treaties, and some of this may seem a little simple to some people, but I feel it is important. First is an automatic treaty. This is when the risk is assumed by the reinsured based on the underwriting of the ceding company. Second is facultative treaties. The reinsurer underwrites the risk due to the signed treaty limits, such as exceeding the automatic binding or jumbo limits. Also, the ceding company may want a second opinion on a particular case. Third is facultative shopping, one of the reinsurer's favorite. This is when the reinsurer underwrites the risk due to some underwriting concern, be it medical and/or financial. Last but not least is facultative obligatory (FACOB). The ceding company has to reserve facilities, for instance, underwriting capacity, with the reinsurer, and the reinsurer has the right to turn down the risk if the retention and/or pools of their capacity are not available.

With nonproportional reinsurance, the proportion of the claim is not determined before the claim occurs. A type of nonproportional coverage would be stop loss. Al will talk specifically about the stop-loss product. I just want to give you a little understanding as to the nature of stop loss. The amount of risk is not known at the inception of the reinsurance agreement. Instead it depends on the number and amount of claims incurred over the coverage period. It really protects against claim fluctuation. Second, there is catastrophe coverage, which is best known as sleep insurance. This protects the company's bottom line from a catastrophic loss. And again, the amount of risk at inception is not known.

I want to break reinsurance into more specific coverages. For starters, let us look at risk management. In this particular situation we're looking at risk management being very judgmental, and the ceding company wants to limit the exposure on any one life. To do that you would be looking at something along the lines of quota share or excess retention.

You may want to "guarantee" the claims experience of a portfolio of risks. Again, you're looking at quota share, excess retention, and sometimes maybe a stop-loss agreement. The timing of certain events is an important factor. Sometimes with smaller ceding companies to cover mortality fluctuations you look at a spread-loss cover. Also, the product line may appear to have inherent risk and the ceding company looks toward reinsurance to provide security. You're really looking at a first-dollar quota share arrangement on certain term products, or products where the ceding company doesn't consider the product a core business.

In financial management you're really looking for reinsurance to help improve the statutory return on a product. You are really trying to follow prudent monetary policy. To secure this you're looking at first-dollar quota share, and maybe you are looking along the lines of 100% first-year allowance, or zero first-year YRT or, heaven forbid, more than 100% first-year allowance. To raise capital to purchase a block of business is something I think that we're seeing more and more of in the industry. What we're really looking at here is coinsuring an in-force block of business.

Another reason may be investment losses or mutual company tax issues. This is one that again really involves the coinsurance of an in-force block. It provides a ceding allowance up front and takes the investment and mortality risks.

To improve RBC ratios and rating agency issues, reinsurance performs a service. This could be coinsurance of either in-force and/or new business. This is one method that I think we really haven't seen the true colors of yet. I think we're going to see this crop up more and more as companies really look at their capital requirements.

The last one I want to look at is consultation. I don't think that reinsurers have done a good job in providing their clients with much help here. Even in a competitive pricing environment we really must provide this service. Consultation is really taking advantage of technology and not looking at being caught by the throat. If you're looking at industry resources, reinsurers should provide expertise, for instance, in underwriting and pricing. At Life RE we look at providing alternative capital needs for a particular cedent. We are also looking at reinsurance administration improvements. We try to work closely with the client to solve his or her problems and keep the expenses low.

Product development consultation and a number of reinsurers are involved in this, providing expertise in product markets where the ceding company may not be familiar or may want to outsource the product to focus on its core of business. Again, it may be a resource-intensive situation for the reinsurer but one that may pay dividends over a period of time. As for operational efficiencies, I think we're seeing more partnerships evolve between reinsurers and ceding companies. It's really important to maintain low expenses. Mortality should be your only variable. And that is why we're looking at electronic data interface to streamline administration as much as possible. Customized work flow applications is one method. Life RE has formed an alliance with Wang to look at customized work flow software application.

In closing, I hope that I have given you some ideas that perhaps are a little bit outside the proverbial nine dots. When you're looking at reinsurance as it exists in today's environment, you have to look with a broader perspective. It is more than just an excess retention vehicle. Look at reinsurance as a partner in solving your companies' needs.

MR. ALBERT J. DAL PORTO: Rick has spoken in general about many different types of reinsurance arrangements that are in the marketplace. My presentation will concentrate on four specific product lines: individual single life insurance, last-survivor life insurance, variable annuities, and deferred annuities. I will address the best reinsurance arrangement for your company to limit the volatility within each product line given a certain situation.

The first product line to be discussed is individual single life insurance, and the specific situation that increases volatility is when a company raises retention. Companies raise retention for various reasons. They may raise it due to competitive pressures, they may seek higher automatic binding limits, they may want to decrease the amount of reinsurance they currently have, or they may want to take on additional mortality risk.

Stop-loss reinsurance is a way to reduce some of the volatility that occurs when a company raises its retention. The mechanics of stop-loss reinsurance are quite simple. The company establishes an initial attachment point that acts as a deductible. The attachment point is usually some percentage of expected claims. The reinsurer pays claims above the attachment point, usually up to some maximum amount of claims. This maximum acts as a deductible for the reinsurer. Claims in excess of this second limit are paid by the ceding company. Most reinsurers also set a maximum limit per life, say $1 million, which acts as an inside limit to help reduce volatility for the reinsurer and in turn helps keep the price reasonable for the direct writer. The cost of the cover depends on the size of the block, the underwriting guidelines of the underlying business, recent mortality experience and, of course, the attachment points.

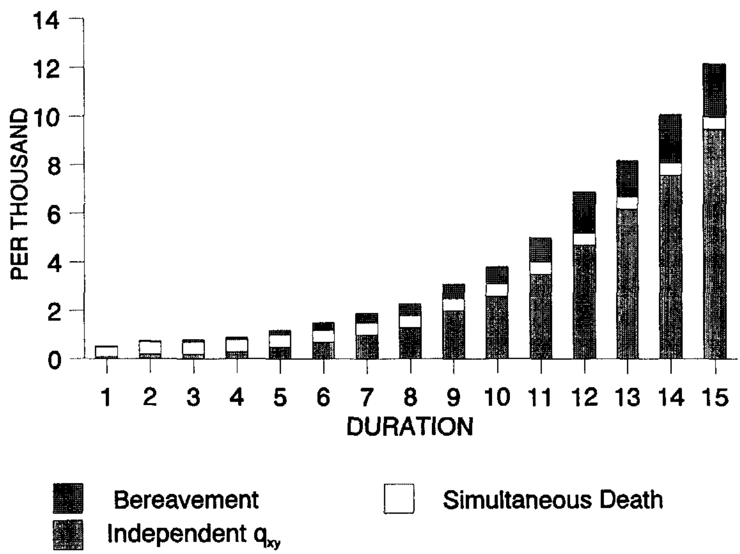
An additional benefit that stop-loss coverage can provide to the direct writer is that a company may be able to reduce its overall reinsurance costs without increasing risk. In the recent *Reinsurance Section News* (March 1995 issue, p.4, "Stop-Loss and Experience—Rated Life Reinsurance Cover") Don Solow of Life RE wrote an article discussing this situation. A company can raise its retention, obtain a stop-loss cover below the new retention on its entire retained book, and purchase traditional YRT reinsurance above its retention. Depending on the competitive reinsurance environment at the time of the transaction, the company can achieve all of the above stated benefits of increasing retention with hardly increasing mortality risk or fluctuations, especially if it can negotiate favorable attachment points. The best way to determine if this arrangement can work for your company is to work with your current reinsurer.

The second product line that I will address is last-survivor life insurance. It seems that many direct companies think that they're paying too much for their last-survivor reinsurance. And it just so happens that many reinsurance companies feel that they're not charging enough for their coverage. In response to this problem, direct companies have increased their retention to cede less business in this "unfavorable" reinsurance environment.

Just as in single life insurance, when a company raises its retention, it incurs additional volatility. The difference with last-survivor insurance is that most companies do not have a sufficient spread of risk to justify this increase from a risk management point of view. In particular, during the early years of a last-survivor policy, expected claims are very low and average claims are very high. For example, expected claims could be as low as $75,000 and the average policy size could be over $1 million. If a company has a claim, odds are it will be closer to the $1 million as opposed to the $75,000.

A company unfortunate enough to incur a claim would experience an unusually large reduction to earnings. This concentration is made unpredictable by the contagion risk: the risk that the death of the second insured is not independent of the first. Contagion risk includes both simultaneous death and bereavement. The first risk is usually caused by a common accident, and the second risk relates to an emotional or physical hardship resulting from the death of the first insured, usually a spouse. Chart 1 shows a simplistic view of the last-survivor mortality assumption, including the contagion risk. The independent q_{xy} is almost zero in the early durations and grows to be the significant piece of mortality in the later durations. The simultaneous death piece is usually a constant per-thousand charge over time and constitutes the largest piece of mortality in the early durations.

CHART 1
LAST-SURVIVOR LIFE INSURANCE
CONTAGION RISK FACTORS



The second contagion factor, bereavement, has been addressed recently by actuaries, but with many differing opinions. Some actuaries do not believe the risk exists, and therefore, do not price for it. Other actuaries think that there is a risk but aren't exactly sure how to quantify it, so they also ignore it in their pricing. A third group believes that the risk exists and includes some charge in their pricing, usually a multiple of the independent q_{xy}, varying by age and duration. The bereavement risk depicted in Chart 1 is almost zero in the early durations and grows to be more significant than the simultaneous death piece in the later durations.

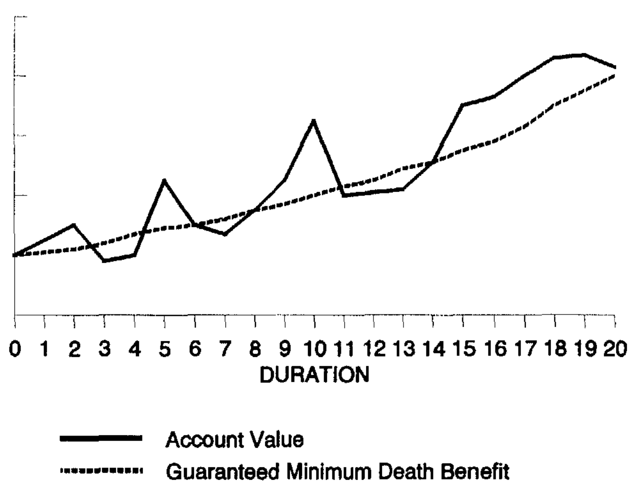
Currently, the reinsurance market offers only a few arrangements below a company's retention. One arrangement is a catastrophe-type coverage offered in the personal accident marketplace. This coverage usually covers only simultaneous death and not the bereavement risk. The problem that some companies have found with this catastrophe coverage is that it is annual renewable. In other words, they, as well as the reinsurer, understand that, if they do have a contagion claim, the reinsurer is likely to increase the premium to such a high level to recoup that loss that it will be unaffordable in the next year.

Another arrangement currently in the marketplace is that of a pool. By combining business of many companies, the direct company obtains protection from a risk that is almost random in nature, and the reinsurance company gets the proper spread of risk it needs to help limit fluctuations on its own books. One such pool works on a total risk transfer basis (i.e., the direct companies have transferred the contagion risk to the reinsurer). Another pool arrangement offers a partial risk transfer, allowing the direct companies to share a portion of the risk. The direct companies would act as retrocessional, assuming back a portion of the risk, thus reducing the overall cost of the coverage. The pool arrangements appear to meet the objectives of both the direct writers and reinsurers.

The next product line I want to address is variable annuities. Variable annuities have taken off in the past five years. In order to differentiate themselves, many companies have looked at enhancing the death benefit features of their products to get a bigger piece of the annuity pie. The first type of death benefit feature was essentially return of principle. If a person died during the accumulation phase, the insurance company would pay the beneficiary the premium that was initially deposited.

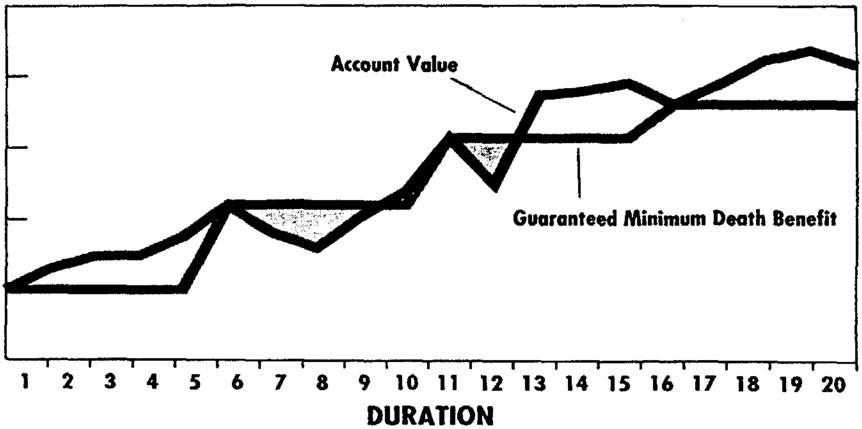
In the last couple of years, there have been two new, more aggressive types of guaranteed minimum death benefits: roll-ups and resets. Chart 2 depicts a 5% roll up. Under this arrangement, the death benefit increases 5% per year regardless of how the underlying funds perform. With this arrangement the insurance company knows what the guaranteed minimum death benefit will be for the length of the contract. But it doesn't know when it will be exposed to mortality risk. The company will be exposed to mortality risk when the account value dips below the guaranteed minimum death benefit, such as in durations 3–5, 7–8, and 12–14. If an annuitant dies during these periods, the company is obligated to pay the full death benefit.

CHART 2
GUARANTEED MINIMUM DEATH BENEFIT
5% ROLL-UP



The other type of guaranteed minimum death benefit is the reset. Under this arrangement, the death benefit resets to the fund value every *n* years. Chart 3 depicts a five-year reset provision. Again, once the fund value drops below the minimum death benefit, the company is exposed to mortality risk should the annuitant die. Under these two aggressive provisions, it is not hard to conjure up scenarios exposing annuity writers to significant mortality risk.

CHART 3
GUARANTEED MINIMUM DEATH BENEFIT
FIVE-YEAR RESET



Currently there is much greater demand than supply in the variable annuity reinsurance marketplace. Depending on the size of the direct writer, it may or may not have a large enough tolerance for earnings fluctuations caused by a sharp and long market crash. A successful variable annuity reinsurance company must have such tolerance. However, a reinsurer may be in a better position to diversify its portfolio to help reduce volatility. It can manage its risk portfolio by accepting various types of death benefit arrangements (i.e., return of premium combined with roll-ups and resets); it can include existing in-force business that may be out of the money; and it can receive the benefits of having a more diversified mix of funds because its portfolio is essentially a combination of the funds from all the direct writers it does business with.

Variable annuity reinsurance quotes are company-specific in nature. Monte Carlo simulations are used in setting the premiums, incorporating many variables specific to the block of business the company writes. Some of the variables are age and sex distribution of the product, the number of funds available, the types of funds (i.e., equity, debt, money market), and the expenses within the funds. The more diversified a company's product is, the lower the reinsurance premium. Diversification obviously comes from having not only several funds but a balance between equity and debt funds. Reinsurance premiums are usually expressed as basis points on assets.

The last product line that I want to address is fixed deferred annuities. A common feature in these products is to waive the surrender charge upon death. Surrender charges usually last from five to seven years, so the mortality risk is limited in duration. Most of these products are backed by fixed-income investments, usually bonds. With bonds, when interest rates rise, the price falls. If the annuitant dies during the surrender charge period and interest rates have risen, the direct company may need to liquidate more than just the bond (i.e., dip into surplus) to pay the death benefit because the bond is now worth less than what the company needs to pay out.

There is currently a small reinsurance marketplace for this risk. The reinsurance premiums look more like traditional life reinsurance than variable annuity reinsurance. The premiums are usually yearly renewable term, age and sex distinct, and are applied to the net amount at risk. Once again, because the risk occurs only during the surrender charge period, direct writers are more inclined to share the risk with the reinsurer as opposed to passing it all to the reinsurer.

That is the end of my remarks. As Rick pointed out, we hope that your knowledge of reinsurance has been broadened by attending this session. For those of you who looked at reinsurance as fulfilling some small role in your company's risk management decisions, you now have a broader understanding that reinsurance companies can offer nontraditional solutions to traditional risk problems.

MR. PETER G. HENDEE: You referred to a mutual company tax issues. I'm not sure what you were insinuating there. I know that for 10% of its surplus in the differential next year, are you proposing something where it basically hands its surplus over to a reinsured and then gets it back over the years?

MR. HODGDON: What we're looking at here is a capital issue. Maybe a mutual would prefer to use its surplus for reinsurance means rather than have it sit idle and be taxed.