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Session 35PD Problem Solving With Financial Reinsurance

Track: Reinsurance

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Summary: Financial reinsurance is a key tool in solving critical business/risk problems facing insurance companies today. This session addresses the role financial reinsurance has taken in solving two very current issues: reinsuring closed blocks from demutualized companies and funding XXX reserves. The first topic covers the reasons a company should reinsure a closed block, the mechanisms, and GAAP implications. The second topic covers how reinsurers are being used to finance the XXX reserves and the market capacity issues that have been created.

MR. PATRICK KELLEHER: I'm the chief financial officer for Transamerica Reinsurance. We have four distinguished panelists who have each prepared short presentations to explain and illustrate how financial reinsurance concepts are applied to increase available capital and reduce required capital via reinsurance transactions.

The first panelist is Bill Brummond, who is Reinsurance vice president at Clarica, where he is responsible for financial reinsurance. Bill will briefly review key financial reinsurance concepts and accounting issues as they apply to traditional surplus relief transactions, and walk us through a typical coinsurance/modified coinsurance (co-modco) transaction.

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† Mr. Richard Leblanc, not a member of the sponsoring organizations, is vice president of structured reinsurance at Manulife Reinsurance in Toronto, Ontario.

Note: The chart(s) referred to in the text can be found at the end of the manuscript.

Bill will be followed by Jeff Poulin, who is senior vice president at London Life Reinsurance Company. He is responsible for life financial and annuity reinsurance product lines. Jeff will outline a hypothetical situation of a ceding company looking to improve capital ratios and return on capital via reinsurance of a closed block. This situation is intended to be representative of some of the current reinsurance financing activity relating to closed blocks of business.

Rick Leblanc will follow with a short presentation to illustrate reinsurance financing solutions relating to new term life insurance business and how the considerations here differ from traditional surplus relief transactions (from the perspective of the ceding company and from the perspective of the reinsurer). Richard is vice president responsible for structured reinsurance at Manulife Financial.

Larry Carson is our last panelist. Larry's presentation complements Richard's in that it also illustrates reinsurance financing techniques as they apply to new business, but Larry's examples relate to financing for fixed and variable annuity portfolios. Larry is vice president and actuary with RGA Financial Group, and he specializes in constructing, pricing, and analyzing financial reinsurance transactions.

MR. WILLIAM M. BRUMMOND: What is financial reinsurance? It is reinsurance that is primarily motivated by financial goals; risk transfer is secondary to the primary business purpose.

The following are some examples of financial goals that can be met through financial reinsurance:

- Surplus management through financial reinsurance can reduce statutory surplus strain.
- Risk Based Capital (RBC) management can result in improved RBC ratios.
- Financial reinsurance can be used for tax planning, such as influencing the pattern of taxable income by year.
- Acquisitions can be financed by using future profits to help fund the acquisition.

Even though risk transfer is not the primary goal, it is required by the NAIC Reinsurance Agreements Model Regulation. Financial reinsurance can be structured to have very little risk transfer or to have full risk transfer. The NAIC Model Reg defines certain risks that must be transferred in order for it to be recognized by the regulators. The risks that must be transferred are morbidity, mortality, lapse, and investment risks. The NAIC Model Reg goes into great detail defining these risks for various types of products. If those risks are not transferred, then the ceding company will not be able to take reserve credit for the reinsurance ceded. It is important that the risk transfer is achieved since, without the reserve credit, the financial purpose of the reinsurance might not be achieved.

GAAP accounting for reinsurance is defined under FAS 113. Financial reinsurance transactions are not usually considered to have significant risk transfer under GAAP. This results in a different GAAP treatment for financial reinsurance as opposed to regular full-risk reinsurance. Under GAAP, financial reinsurance revenue is equal to the fee income.

The NAIC balance sheet is often more conservative than the GAAP balance sheet. This is most noticeable in the reserves. A reinsurer is often willing to accept a liability for consideration that is less than the NAIC reserve, especially if the reinsurer perceives the true liability to be less than the NAIC reserve. An offshore reinsurer is likely to do this since it is not regulated by the NAIC, and it would be able to hold a lower reserve than the NAIC reserve.

For example, if the onshore ceding company held a conservative NAIC reserve equal to \$1,000, an offshore company could hold a GAAP reserve that is less than \$1,000. The offshore company would accept that liability for something less than a payment of \$1,000, the NAIC reserve, to the offshore company. So that could be an advantage of reinsuring the business to an offshore company that does not face the NAIC requirements.

Modified coinsurance (modco) is often used in financial reinsurance transactions. The example I'm going to present involves modified coinsurance. I just want to step through a couple of the aspects of modco. Under modco, the ceding company retains the reserve. The reinsurer pays the ceding company the increase in the reserve less the investment income on that reserve.

For my example it's going to be a combination of coinsurance and modco. We're going to reinsure the strain on a coinsured basis. So the amount of relief that the ceding company is going to receive is equal to the coinsured reserve that is ceded offshore. Very simply, the amount of reserves the company is able to move off its book is going to be the amount of surplus relief that it's going to pick up. The reinsurer is going to pay an allowance equal to the premium less the modco adjustment, and, as you will see in the example, that will result in a cashless transaction. This means that no money actually changes hands between the two companies. The other half of the equation, other than the coinsured part, is the modco piece. The portion of the reserves that is not ceded on a coinsured basis will be ceded on a modco basis. Therefore, the assuming company will retain that portion of the reserve.

In the example, they start off with statutory reserves of \$1,000. The amount of surplus relief that they're trying to obtain is \$100, and we're going to assume that \$100 is a redundant reserve out of that \$1,000 NAIC reserve. Basically both companies feel that \$900 might be closer to a GAAP reserve or a realistic reserve. For this example we'll then coinsure 10 percent of the reserve. The 10 percent is simply the amount of surplus relief divided by the total amount of reserve, 100 divided by 1,000, and, therefore the modco portion is going to be 90 percent. One

other assumption in this transaction is that there are going to be experience refunds that will result in a large portion of the profits being refunded back to the ceding company.

Table 1

Ceding Company's Income Statement	
Premium to Reinsurer	1000
Allowance to Ceding Co.	100
ModCo Deposit to Ceding Co	900
Net Cash to Reinsurer	0
Decrease in reserve	100
Gain	100
Ceding Company's Balance Sheet	
Assets Decrease	0
Liabilities Decrease	100
Gain to Surplus	100

Table 1 is the ceding company's income statement as soon as the reinsurance transaction takes place. There's a premium of \$1,000 paid to the reinsurer. The reinsurer pays back an allowance of \$100, and a modco adjustment is also paid back to the ceding company of \$900. So the net cash paid to the reinsurer is zero, but the ceding company has ceded \$100 of reserves on a coinsured basis. Therefore, they've had a decrease in reserve, and they show a gain on their statutory income statement of \$100. On their balance sheet there's no change in assets because no cash moved back and forth, but the liability is decreased by \$100. So there's a gain to surplus of \$100. Through this magic we've created \$100 of surplus, but you have to keep in mind that the \$100 that they've picked up is actually future profits that they are going to forego. They may have received the \$100 today, but that's because they aren't going to receive that \$100 in the future.

Table 2

Reinsurer's Income Statement	<u>Onshore</u>	<u>Offshore</u>
Premium to Reinsurer	1000	1000
Allowance to Ceding Co.	100	100
ModCo Deposit to Ceding Co	900	900
Net Cash to Reinsurer	0	0
Increase in reserve	100	0
Gain	-100	0
Reinsurer's Balance Sheet		
Assets Decrease	0	0
Liabilities Decrease	100	0
Gain to Surplus	-100	0

I have the reinsurer's income statement shown two ways (Table 2): reinsured to an onshore company that would be subject to NAIC requirements, and ceded to an offshore company that is not subject to NAIC requirements. The first three lines are the same. Basically you've ceded \$1,000 of premium to the reinsurer. The reinsurer is giving back an allowance of \$100. There's also the modco adjustment of \$900 going back to the ceding company. So, again, we're showing no cash has changed hands. The onshore company would set up a reserve of \$100. So they would lose \$100. This is comparable to the \$100 that the ceding company made. The reinsurer lost \$100, and that shows in their balance sheet, too. But if we move this business offshore where the NAIC requirements do not apply, and the companies believe that the \$900 of modco reserves is adequate for this block of business, there's no need for them to set up an additional reserve. They would probably need to set up some sort of security in order for the company to take a reserve credit, such as a letter of credit that they could use so that the ceding company could get credit for that reserve. For the offshore company, on the date this transaction takes place, there's no impact on its income statement and no impact on its balance sheet either because no cash has changed hands, and they've picked up no reserve liability.

Table 3

Reinsurer's Income Statement	<u>Onshore</u>	<u>Offshore</u>
Gain before Exper. Refund	30	30
Experience Refund	28	28
Net Cash to Reinsurer	2	2
Increase in reserve	-28	0
Gain	30	2
Reinsurer's Balance Sheet		
Assets Increase	2	2
Liabilities Increase	-28	0
Gain to Surplus	30	2

We just saw what happens on the day the transaction takes place. Table 3 shows what happens over the first year. We've assumed that there's a \$30 profit in the first year, but that's before the experience refund. So the reinsurer shows a profit of \$30, but then it refunds a good part of that back to the ceding company. So \$28 goes back, and the reinsurer keeps \$2. The \$2 is the fee that the reinsurer receives for performing the financial reinsurance transaction. That \$28 of experience refund would be applied to reduce the amount of surplus relief that's being provided. So we're amortizing the \$100 of relief over time. So that \$28 of experience refund will go to decrease the onshore company's reserve. They will actually show a gain of \$30, but they had shown a loss of \$100 when the transaction took place. They're just recovering that initial loss. On the balance sheet, their assets have gone up by \$2. That's the fee they received. The reserves have gone down by \$28, for a net change of \$30. That's basically the profit that has come through for the company. If we look at the offshore column, the big difference is that there's nothing as far as an increase in reserve because that company, offshore, is not holding reserves. They show a \$2 gain, and that's just their fee income.

The ceding company receives \$28 of profits as an experience refund, but it is offset by a \$28 increase in reserves. So they show no gain. That's because they recognized the \$100 when the transaction took place, and they're not recognizing any profit now when it would have normally occurred.

Table 4

Income Statement	Ceding Co.	Reinsurer	
		Onshore	Offshore
Gain	100	-70	2
Balance Sheet			
Assets Increase	28	2	2
Liabilities Increase	-72	72	0
Gain to Surplus	100	-70	2

Table 4 is a summary of the transaction—what occurred when the transaction took place and then what happened for the first year. We add those items together. The ceding company has shown a gain of \$100. That's the amount of relief it got. The onshore reinsurer has shown a loss of \$70. If you combine those two, there's a gain of \$30. So that's the total profit that we show for the company for the first year. These two companies on an NAIC basis haven't really created any more profit than was in the business itself. It's just the \$30. But if we take this business offshore, we see that the offshore company has made \$2. The ceding company makes \$100. It looks like everybody's made out. The big difference here is the offshore company's reporting is not subject to the NAIC requirements. It's showing its financials on a GAAP basis. So it's making \$2 on a GAAP basis. The ceding company is making \$100 on an NAIC basis. That's the difference between being onshore and offshore.

It appears that more profits are being generated, but this is only because both companies are not reporting on an NAIC basis.

MR. JEAN-FRANCOIS POULIN: What I want to talk about today is the closed blocks of business and how there's been a lot of financial reinsurance on closed blocks of business. I'm going to start by explaining what closed blocks are and then go into the consideration of doing a transaction on a closed block. There are a lot of mutuals demutualizing now, and the process of demutualization is to create a closed block of participating policies and set them all together and come up with assets that are sufficient to pay all future liabilities and dividends on that block of business according to the current dividend scale and with reasonable assumptions. So it's sort of a 50/50 type of reserve that you set aside for all future liabilities on your participating policies.

The assets that you set aside have to be segregated, and they typically have to be very good quality assets. What you see in these blocks of business is investment-grade corporate bonds. The dividend scale can be changed in the future according to a pre-approved glide path, and the process there is to make sure that, if you look at all the policies, by the end of the last policy, when the last policyholder dies or lapses, you're not going to have any dollars left in that pot of assets. This is the pot that you're going to use to distribute all future liabilities on your par block of business. To change your dividend scale, depending on the case, the regulators may have to approve these changes. So, it may not happen as fast as it would happen otherwise.

I'm going to go through an example. We're going to start with Company X who demutualized and has \$1,000 statutory reserve on its par policies. They're going to bring in a consultant who's going to look at the block of business and determine what the closed block is worth, and in this instance I've used \$800. Then they're going to determine which of the company's total assets should go in that closed block and agree on that with the regulators. Obviously the regulators are going to be involved to protect the policyholders. Once it's all done, these assets are segregated, and the company has to manage this block in the future. The company will still have to hold the risk-based capital (RBC) on that block of business.

They've determined \$800 is enough to help them with future liabilities, at least on an expected scenario, but they have to still hold \$1,000 of statutory reserves. So they have to come up with another \$200 of assets to allocate to that block of business. Part of that \$200, obviously, is future profit on the block that the company will be able to realize. The other part is there to pay for future administrative expenses on the block because the closed block covers only the liabilities. It doesn't cover the administrative expense on these liabilities.

The assets of the closed block are typically high in quality. The regulators will want the company to take all the best assets and put them in the closed block. So you've got much higher quality assets than what you had previously on average on your

block of par policies. So you're left with that other \$200. It's very tempting to allocate assets that are of lower quality to back the rest of the block (\$200), and obviously the RBC on those assets is high.

New issues that also come up with demutualization include keeping stock analysts, rating agencies, and regulators happy. GAAP ROE is also a new thing. You're going to have to focus on that more if you're a mutual and you're demutualizing. Keep the RBC ratio at a reasonable level. I'm not sure it's a new issue, but it's an issue that obviously impacts your ratings and, therefore, impacts your future business more than it used to. How can you achieve all these goals in increasing your ROE, while helping your RBC at a reasonable level? That's where financial reinsurance can help. A large quota share on your closed block is a good way to reduce your RBC in total. You can usually reinsure it such that you pay a very small fee, and you still realize most of the profit on the block.

One of the considerations in doing such a transaction is the block. The reinsurance eventually has to go offshore. It can go through an onshore entity, but you have to realize as a company that if you don't go offshore, it's hard to get the pricing that you need to make this transaction improve your results. In doing that you have to worry about the company's credit risk and potential letters of credit or a trust that will be required there. You have to comply with your own state regulations. New York requires you, as a reinsurer, to reimburse for dividends fully, and you can't really put limitations on what the company is going to do with dividends. So, it leaves the reinsurer open to issues. Connecticut has some restrictions on letters of credit and so on. All these different regulations in different states will affect the way you're going to construct this transaction.

The cost of the reinsurance is obviously a consideration as well as the restrictions and conditions of the reinsurer. The reinsurer may want you to keep a certain quota share of the block. They may have other requirements on the assets that they're going to be comfortable with reinsuring, at least for that \$200 we've talked about. I mean the closed block is pretty much set, but they may have limitations on the rest of the assets.

The reinsurer on the other end is thinking about protecting himself. Because of the new regulations that Bill talked about on the risk transfer, what reinsurers are looking for in a financial reinsurance transaction is essentially a block of business that has very predictable cash flows that act a little like a highly rated security. So you want a stable and credible block of business. You also want that block of business to be profitable, and hopefully, if it's an in-force block, you've got good history to prove that.

The other consideration that the reinsurer has in pricing this block of business is insurance risk. So, mortality, morbidity and lapse are big issues. Usually if you look at the closed block of business, and you do quota share transactions where the assets are equal to the reserve, and the block is large enough, what you have is a

block of business that's fairly stable that complies with all the previous requirements. As a result, the risk on it is not very large, but all the risk is transferred. So, if lapse rates increase tremendously, then that's the reinsurer's problem. If mortality increases tremendously on the block, that's also the reinsurer's problem.

The investment risk also needs to be reviewed by the reinsurer, and all the reinsurers have different views on different types of assets. So, it's certainly a strong consideration in doing these closed blocks of business. The expense is also an important consideration. In looking at a closed block of assets, you know the expenses are not covered in that \$800 we were talking about earlier. So, as a result, you have to estimate how much it's going to cost on an ongoing basis to administer the block of business.

The cash flows are probably the biggest problem for reinsurers. Essentially, you can have a bad quarter in which mortality is higher than expected or you have some losses on your assets that are going to create a loss under the transaction. These losses have to be paid in cash, and obviously reinsurers don't want to be out of pocket cash for a long time. Usually there's a loss carry-forward set up when that happens, and you get paid back at the interest rates on the block of business. There are regulations around that, too. So, the question I have is, should the reinsurer charge extra for cash paid? Certainly it's tempting, and it's allowed in certain states, not allowed in other states, so you have to look at that. The general answer is no, basically. What the reinsurer will try to do is put features in the transaction to protect itself from paying out a lot of cash for a long period of time. That's what we're talking about here.

One of the ways to mitigate that risk, obviously, is to adjust the dividend reimbursement. If you feel that mortality has gotten worse, and it's not complying to your dividend scale, you should make adjustments to that dividend scale. As a reinsurer, depending on the states you're in, you may or may not have any say on that, but you want to work with the company to make sure that it reacts as fast as it can to make those adjustments if you feel that these are permanent changes. There will be conditions and limits in the agreement to help you do that, and there might be weak statements describing the company's dividend policy and how it will try to continue administering that policy within the glide path agreed to with the regulators.

You can have year-to-date settlements, and that will help you. If you have a good first quarter and a bad second quarter, looking at year-to-date settlements may help you in the second quarter. It's a technique that's often used by reinsurers. You have quarterly settlement, but you look at the transaction on a year-to-date basis.

Investment guidelines are also important in the treaty because the risk comes as much from the investment side as it does from the mortality side. So, what is considered an allowable investment under the contract is very important.

Here is an example of reinsurance. The company can do a large quota share of their closed block of business and allocate some high RBC assets to the difference between the closed block assets and the statutory reserve. I'm using 50 percent quota share as an example here. That way you are able to get a lot of credit for the C-1 risk ceded. Sometimes, if your block is really good, you can even get some surplus relief. In this example I'm going to use \$30. So, if we go back to the original example, I had a statutory reserve of \$1,000, a closed block asset of \$800, and \$200—essentially the future profit and the future admin expense on the block. Company X reinsures half of its block, so there is \$500 of statutory reserve on a modco basis.

We use a modco basis because the assets in the closed blocks are usually segregated. They can't be transferred. So coinsurance doesn't work very well here. Modco makes it easy, and since the rules on RBC changed as of two years ago, you can now get RBC credit on modco reserve and on modco assets. So, \$400 of the assets in the closed block are associated with this transaction. Then the company will allocate another \$70 of real estates and stocks, and those are high-RBC assets. So, that's why they will choose those. The \$30 is the allowance that the reinsurer will give to the company. What we're looking at here is a co-modco, as Bill explained, where you have \$30 of coinsurance and \$470 of modco.

The future profit on the block will go toward repaying the \$30 first. From that you will pay your dividends. If there's profit above that, you're going to try to reduce that \$30. Typical surplus relief pays back in five to seven years on an expected basis, so the reinsurers are going to try to structure it that way. The reinsurer will charge a percentage of the surplus relief and a percentage of the RBC relief. Usually the percentage of RBC will be lower. The percentage of surplus relief will be a higher fee because trust and letters of credit have to be posted, so you have to take into account that cost. The company, as a result, reduced the RBC on its block, the C-2 and the C-1, especially the C-1 on the additional assets, and company also fronted \$30 of future profit on the block that they can re-deploy to its new ventures.

In conclusion, closed blocks are a very good example of where a financial reinsurer can help ceding companies. These transactions are not done overnight. They take a long time. People have to understand the blocks of business. There are usually many different policies in a par block and a lot of work is involved in underwriting them just because of how big the blocks usually are. The reinsurer will be a partner to the company here. It's important to understand that if they're going to take a large portion of a large block of business, that you think of them as a partner and not as just an average reinsurer. I'm not saying that usually you don't think of them as partners, but they have a fairly significant risk in this block of business, and they want to make sure that you consult them in managing it. It usually creates a win-win situation. The reinsurer will get his fee, and the ceding company will get the RBC and surplus relief benefits they're looking for.

MR. RICHARD LEBLANC: I want to talk about how XXX has impacted level term premium products. Very much the same concepts apply to universal life (UL) secondary guarantees, but actually the problem is even further exacerbated. The biggest difference that you'll find in applying financial reinsurance to an XXX scenario versus other blocks of business is first, the duration is much longer than anything that you typically apply financial reinsurance to, as I think some of my fellow panelists have mentioned. The typical duration would be five to seven years. Well, here you're going to have a problem that could potentially be out there for 20 years, for example, with a 20-year product.

The second aspect that you have to keep in mind is that term business is, by far, the biggest piece of life business sold out there. So, even though you might apply financial reinsurance to blocks of annuities, it represents a relatively small portion of the overall insurance market, but because term business is the biggest piece of life business sold, you'll come into issues of capacity and how much financial reinsurance will be available to solve that. So now that I've told you the whole story, let's move forward.

In a hypothetical situation, an insurer believes that it has priced its term product appropriately. Based on the mortality experience and expense loads, the insurer believes that it can make an appropriate economic profit based on a certain pricing basis. However, XXX comes into play and says, "Now I'm going to impose a constraint. It might be well that you've priced it economically to be profitable, but we're going to ask you to add an additional measure of conservatism, and, therefore, the price that you're going to have to charge in order to be long-term profitable on a statutory basis is much higher than what you're currently charging."

The Insurer is now in an environment where economically, its product is profitable, but it can no longer afford to sell that product, given the new regulatory constraint that's been brought into effect. So what's the solution?

Well, obviously I'm a reinsurer, so I'd like to talk to you about a reinsurance solution, and there are two ways you can go. Obviously you can go the traditional reinsurance route, which basically passes the profits, as well as the problem, onto the reinsurer. Or you can approach a financial reinsurer, and the financial reinsurer will help you finance that strain over time, and so it'll take the downside risk. The financial reinsurer will provide the capital that you need, and in exchange you'll pay a reasonable fee.

I think you've probably seen this humpback reserve (Chart 1) many times since 1999, but I thought I'd put it up again. What you'll see is that the top line is what XXX would typically (this is the basic reserves) require you to hold on the 20-year product. The lower curve would be the proxy for an economic basis of reserving that would probably be sufficient to support that product. So what you'll notice under XXX applied to term products is that the amount of strain, in other words, the area between the top and lower lines is quite narrow at inception, grows quite

significantly 10-12 years out and then becomes quite narrow as the product basically matures. That's an important thing to keep in mind as we talk further about how to solve the issues created by XXX.

Now, the base foundation of financial reinsurance solution is that Reinsurer B believes that a portion of that XXX reserve is redundant. So, in other words, the area between that top line and the bottom line isn't required. As I mentioned, the regulators imposed a constraint in which they essentially want that level of reserve to be held, and so you either hold it onshore or the reinsurer will have to provide some form of collateral onshore, such that the total amount of capital or reserves are held for that product in accordance with XXX.

And so you have, as others have mentioned, three essential forms of collateral. You can either allow the cedant to withhold the funds. You can provide letters of credit or the reinsurer can provide assets in trust. That will be essential to any solution that you'll bring to XXX; you'll have to decide which form of collateral is the most appropriate. And, obviously, if the cost of the reinsurer providing that collateral is less than Company A's cost of capital, then there should be a win-win for both. So, in other words, you could continue to sell that product at a more economically reasonable price, and policyholders will be protected because the same amount of security will be held domestically.

That's the 20-year picture. Now let's look at what a typical five- to seven-year traditional financial reinsurance solution would look at. Typically you want the relief to amortize over five to seven years. Why? I'll explain a little bit later. Essentially what you'll find is that experience might be a little poorer than expected, and all that will do is extend the period over which the relief is repaid, so instead of five years it might be eight years. Or perhaps you'll have a little bit of upside where experience is better than expected. But overall you'll see that the trend the relief provided decreases annually, so the reinsurer who is providing this solution knows at inception how much relief is to be provided or how much capital that it is renting to its insurance client and how long it will be outstanding—a little bit different under XXX.

Why do we typically structure transactions to be five to seven years? Well, first of all, financial reinsurers providing their assets are lending capacity typically, and most companies will look at that as short-term excess capacity that they have that they haven't deployed into other businesses. So the financial reinsurer will say, I have X amount of capital available, but I don't necessarily want to commit it for 20 years. If I did, I could probably get higher equity returns by investing in my own business or investing in someone else's business.

Over a five- to seven-year period, you're much better able to predict what the results will be on the block of business. So just the simple volatility or predictability of a block is important. As you go out 20 years, you can tell that what's going to happen in year 18 is obviously a little softer. Another point is the expense of

providing this financial reinsurance. Think of it as the reinsurer's cost for its letters of credit. In a typical situation you might have one-year terms provided by your bank or some of the reinsurers may have gotten five- or six- or seven-year terms committed to facilities, but to my knowledge not too many financial reinsurers have 20-year letter of credit facilities available. That's why, in part, financial reinsurance is done on a shorter duration.

Also, there is the credit risk. If you're providing an insurer with a significant amount of letters of credit, you have the risk that they'll draw on those letters of credit inappropriately at some point. Obviously, if you keep it shorter duration, the risk that the company's credit quality will deteriorate and the risks of the financial reinsurer are manageable. You also have to remember that, unlike a capital market instrument, when you enter into a financial reinsurance transaction, it is very illiquid. I can't easily go out and trade it or hedge it with somebody else if something happens with the credit profile of my client. So, that also is a constraint in terms of the time duration within which I want to provide a solution.

Here (Chart 2) we've superimposed two relief patterns. The shorter one represents your run-of-the-mill, standard financial reinsurance transaction. The curve is the 20-year term product. You can see is that intuitively we can't use the exact same solution that brought the short-term products to a 20-year term product. You see that the relief goes down very predictably on a shorter traditional transaction, whereas on XXX it starts very low, climbs to a significant amount 10-12 years in the future, and then perhaps the last seven years resembles a traditional short-term solution. So that means we have to be a little more creative in how we address the specific issues raised by XXX.

So what do we do? Well, the first thing your financial reinsurer will likely talk to you about is some form of cap on the relief. In other words, if you do a traditional transaction—I know at inception you want \$50 million of relief, and I can provide that. However, if it looks like your peak need will occur somewhere 10-12 years down the line, it gets very difficult to predict what that amount will be. What happens if you have some deficiency reserves and your X factor changes or your lapse experience differs from your pricing? Then the cap could be quite significant. So, you'll likely find that your reinsurer will want to put an upper limit to what will be provided.

Next, you're asking your financial reinsurer to commit today to provide you with increasing amounts of relief over the next 10 years, let's say. So if you come back to my assertion that the financial reinsurer is really looking at a way to deploy its excess short-term capital, you've asked it to commit something that's not necessarily short term. So you've asked it to make a long-term commitment to provide capital. I would suggest that most will also look for some form of fee to be payable now to give you the assurance that capacity will be available in the future.

Because of the difficulty in predicting the cash flows under the product, you'll likely have some adjustment features in the product that might increase your price or change some of the risks faced by the reinsurer. You might also have some reinsurers that'll approach a 20-year issue with a series of, perhaps, four revolving five-year solutions. We'll do a five-year solution now. In year six we'll bring in another five-year solution. But that obviously has some issues for you in terms of what happens at the end of year five if my reinsurer chooses not to provide that solution. There are many things that you, as the buyer, need to consider as well as the reinsurers in providing the solution.

Chart 3 has only two boxes. It depicts, very simply, insurer cedes in some form—typically a co-funds withheld or on a modco basis; even some co-modcos, the 20-year products to a reinsurer who typically will be offshore, and the reinsurer provides some form of collateral.

So how do you select the most efficient form of collateral? Well I call the process the four Cs of collateral. The first one is the cost Next is the capacity you have available. Then there is the convenience. In other words, is it very difficult to increase the amount of relief that you need? Or, conversely, if you find out four or five years down the line that you don't need the amount of capacity that you reserved for, you obviously want the flexibility to get out. The fourth one is the certainty—making sure that it'll be there for the 20 years.

What you'll typically find is that internal funding will be the lowest cost, and it will be the most convenient because you'll probably be a good bargainer with yourself. But at some point in time you're going to run into capacity constraints, and you're going to need to look to an outside service provider to help you.

Regarding investment banks that will offer you a securitized solution, you'll find that they will discover the embedded value in your product because of incredible competition in the past couple years. You won't be able to provide that margin of safety, as Jeff mentioned, to ensure that your investment bank has a very high-quality debt-type instrument that's predictable and can absorb some adverse deviation. So your lender, will require some form of recourse, and either want you to provide some form of credit enhancement to the special purpose vehicle that will be providing the capacity, or it will want a third party reinsurer to take on that downside risk, to essentially lock in the certainty that the amounts advanced to provide the collateral are essentially repaid.

What you'll find as well, is that in order to do this, and it's a very powerful solution, you'll need a certain amount of minimum size to make the transaction economical You'll also have to look at whether or not you have the flexibility that you need. For example, what happens if XXX is repealed three years down the line, and you've just borrowed money for 20 years? You have a prepayment option or you essentially have to have that excess debt out there for 20 years and find some way

to re-deploy that capital., You have to keep those things in mind with whatever solution you look at.

Another thing is perhaps you don't go the securitization route, but you decide to borrow. You have to look at the cost of having borrowed money to essentially collateralize a 20-year XXX reserve. You'll have situations in which the most economical situation will be to borrow short term, in perhaps a one-year duration, but yet you'll have to keep rolling that every year. So obviously you have the chance of a mismatch.

There are obvious issues with letters of credit. What will the future pricing availability be? Will regulators disallow? And something you might want to consider is what happens if another September 11 event occurs. You'll see many downgrades have occurred in the reinsurance world, as well as the insurance world, which creates a lot of uncertainty. If your provider gets downgraded, will it still be able to provide that capacity at the cost they had intended? Again, you have the choice of doing it yourself, using an investment bank, or using a financial reinsurer. You have to remember is that, regardless of the route you select, you'll retain some form of business risk. You may have transferred the insurance risk, but you'll have some form of business risk remaining.

The result of Insurance Company A using a financial reinsurance solution is that its income emergence will reflect much more economic reality than a statutory income emergence which typically creates a lot of strain over the first five or seven years. But you'll have to remember that the financial reinsurance solution will consume a fair amount of the profits that you've priced into your term products, in the long term, that's probably not a viable solution. In the long term you're likely going to have to address the statutory constraints through re-pricing your product. But definitely financial reinsurance buys you time. It allows you to compete with those that perhaps aren't subject to XXX currently.

MR. LAWRENCE S. CARSON: I'm going to talk to you today about annuity financing. My presentation is focused on new business, but this applies equally as much to in-force blocks of annuities.

What are the problems that a ceding company is going to face? On fixed annuities, the most obvious example that comes to mind is statutory surplus strain. RBC requirements are another big one, as are investment returns. In an onshore environment, companies are limited in their investments choices. Through reinsurance you can tap into a broader pool of assets. Statutory returns and GAAP returns on equity sort of go hand-in-hand. These are problems for any line of business in any company. On variable annuities the main issue that comes up is funding cash strain, since on variable annuities you have to fully fund the account value in the separate accounts. As always, returns are also a big issue.

Let's talk a bit about two different types of reinsurance. Typically when people hear the term financial reinsurance what terms come to mind is surplus relief, or what I like to call lower risk reinsurance, versus your traditional full risk transfer, which I'll call higher risk reinsurance. You should think of these as lying on a spectrum on the risk return trade-off. It's really that trade-off that we're talking about. I just laid these out to present some of the considerations. If you enter into a lower risk reinsurance transaction, what we might typically call surplus relief, the net cost to the ceding company will be lower. In other words you'll be able to keep more profits. It's typically has a shorter duration, typically in the five- to seven-year timeframe. And you can get a significant uptick in statutory and GAAP returns, but less than you could get if you did a full risk-sharing transaction.

On the other hand, if you go with something more on the high-risk end of the spectrum, since the reinsurer is going to be taking on more economic risk, it's going to want higher returns which means that the profits that the ceding company will be able to keep are lower. It's going to have a longer expected duration. There's going to be a higher improvement in the statutory and GAAP returns from the ceding company's perspective, and it also gives you more of an opportunity to take advantage of the reinsurer's investment expertise or better regulatory or tax environment.

Let's talk about the typical problems that a company might face on fixed annuities, and I'll give a solution. On statutory surplus strain you would probably use a co-modco transaction, what's called combination coinsurance, modified coinsurance. This is what Bill discussed in his presentation. Coinsurance funds withheld is a similar variant, and that would also work nicely. Same thing, co-modco would work nicely to solve the a problem and reduce the RBC strain. To deal with investment returns you probably need to do a straight coinsurance transaction, and this is going to fall more on the higher-risk end of the reinsurance spectrum. And then for statutory returns or GAAP returns on equity you could really use any one of these—coinsurance, straight coinsurance, co-modco, or co-funds withheld.

Let's deal with an example. I chose a structured settlement product simply because it's an easy product to model and understand. On this particular product we have an initial statutory strain equal to 14 percent of premium, and that's because we're paying a 7.5 percent commission, and the reserves are priced at a 6.5 percent valuation interest rate. In the example I put together, the product is implicitly priced to earn 7 percent from the policyholder's perspective. So, on a pre-tax basis this is earning the ceding company about 10.25 percent with target surplus set up at 4 percent of statutory reserves. That's not bad, but we can probably do a bit better.

Solution 1—Co/Modco

- 90 percent quota share
- Initial coinsurance reserve = 5 percent of reinsured premiums
- No reimbursement of 7.50 percent commission
- Cash strain = 1.5 percent of reinsured premiums
- After relief amortized, continued RBC benefit
 - Assuming experience is as expected
- Cash and surplus relief paid back linearly over 5 years
 - But only to the extent profits allow
- Average pre-tax ROE goes up to 12.05 percent
- Ceding company keeps 97 percent of GAAP pre-tax profits
- Initial statutory strain cut by over 40 percent

The first solution I'd like to present to you is the combination co-modco. We will take a 90 percent quota share and cede it on this basis with an initial coinsurance reserve equal to 5 percent of the reinsured premiums. Now, if my initial reserve strain is equal to 6.5 percent, and I'm setting up 5 percent as a co-reserve, that means that the cash strain that the reinsurer will experience at issue is 1.5 percent of the premiums. That's where that 1.5 percent comes from. I'm assuming no reimbursement of the initial commission. The reinsurer needs to reimburse ongoing renewal commissions and renewal expense allowances but not the upfront commission. The relief would amortize in, say, a five-year timeframe. After that relief was amortized, the company would continue to receive an RBC benefit by virtue of the reinsurance—this is, of course, assuming the experience is as expected. I have the cash and surplus relief being paid back linearly over a five-year period, but, of course, only to the extent that profits allow.

This gives you a decent bump-up in GAAP ROE. Went from 10.25 percent to just over 12 percent. Just looking at the absolute value of GAAP pre-tax profits, the ceding company ends up keeping 97 percent of those profits. So you really haven't given up a lot to get that bump-up in ROE. The RBC requirements get reduced by over two-thirds, and the initial statutory strain is cut by over 40 percent. So, with a very small give-up in the overall level of GAAP pre-tax profits I get some benefits on my returns. I get some RBC benefits. And I cut my statutory strain.

Solution 2—Coinsurance with Cash Ceding Allowance

- 50 percent quota share
- Initial ceding commission = 15 percent of reinsured premiums
 - +7.50 percent commission
 - +6.50 percent reserve strain
 - +1.00 percent
- Average pre-tax ROE goes up to over 19 percent
- Ceding company keeps only 60 percent of GAAP pre-tax profits
- RBC reduced by over 1/3
- Initial statutory strain cut by over 2/3

The next solution is just a straight coinsurance deal, and here I'm going to illustrate a 50 percent quota share transaction with an initial ceding commission equal to 15 percent of reinsured premiums. I'm covering the 7.5 percent commission, the 6.5 percent reserve strain, and assuming that this would be in an offshore environment, I threw in an extra 1 percent to cover federal excise tax. What you have to ask yourself is, well, "We just priced that with a 14 percent initial statutory strain, and we were only earning 10.25 percent. Is the reinsurer crazy?" In fact, it's not. It has more investment flexibility. I've assumed that the reinsurer with a broader pool of assets from which to choose is able to earn about 1 to 1.5 more percentage points than the ceding company. It has lower capital requirements being offshore. There's more favorable accounting. The reinsurer is looking at everything on a GAAP basis, and it doesn't have to worry about statutory accounting.

It's important to point out that the U.S. taxpayer status of the ceding company does not matter for any of these three points I just mentioned there. Incidentally, in the pricing behind this the reinsurer is earning 16 percent pre-tax returns in its pricing. So, from the ceding company's perspective its pre-tax returns go up to over 19 percent—that's a nice bump-up, but it comes at a price. Now the ceding company is only going to be keeping 60 percent of its prior GAAP pre-tax profits. It still gets a nice RBC reduction, just over one-third, and its initial statutory strain is cut by over two-thirds. You're going to be showing lower per-share earnings.

Let's talk about variable annuities and lay out the typical problems that a company might face, as well as some of the solutions. Typically we need to go with modco. Coinsurance, although possible on a separate account product, from a practical perspective it is impossible. So you could do modco with a cash ceding commission. An interesting twist on that is modco with a premium withheld by the ceding company. So essentially what you end up with is a loan in a reinsurance package, and that has some neat advantages.

What are some of the issues we face when reinsuring variable annuities? Do you want to go the lower risk route where we're going to give you a certain amount of financing that we expect to recoup in the five- to seven-year timeframe? Or do you want to go more with the full risk-sharing? We'll give you a higher ceding commission, but we're going to keep a larger share of the profits going forward. From the reinsurer's perspective we're interested in what your policyholders are investing in. What's the allocation between stocks, bonds, and cash? How volatile are those funds going to be? What is the ability of policyholders to transfer between funds or between the separate account and the general account portion of it?

I'm going to talk about the steep grade off of the surrender charges in a little bit, but to the extent that the modco form of reinsurance ends up taking all the statutory income items and turning them into cash flows. If you have steep surrender charges wearing off, that can lead to cash losses for the reinsurer, and that creates its own set of issues, and a lot of that is tied up with the

Commissioner's Annuity Reserve Valuation Method (CARVM). In a poor market performance scenario, the CARVM methodology will not allow you to take full recognition for the potential surrender charges. And that, too, will lead to cash calls under the modco form of reinsurance.

Chart 4 is a fairly typical eight-year surrender charge pattern that shows what the CARVM reserve might look like. In the reinsurance transaction we can arbitrarily define the modco reserve to be the greater of CARVM reserve and a certain percentage of account value. Essentially we prepay a portion of that wear off the surrender charges at issue, not so much to put us in a loss position at issue, but enough so that the slope going forward is going to severely lessen the probability of cash calls later on.

So, as an example for the initial modco transaction, you have a premium of 100 percent, a modco reserve, say, of 93 percent, and we pay a ceding commission of seven percent. So far there's no surplus or cash impact. Now, on the funds withheld by the ceding company, what the ceding company would do is withhold 10 percent of the premium. This has no surplus impact. It's still an amount owed to the reinsurer, but the ceding company gets \$10 in cash. The nice thing about this is that only the interest needs to come out of the reinsurance profits. The principal repayment of that \$10 can be scheduled irrespective of profits. This is what I was referring to earlier when I was talking about a loan in a reinsurance wrapper. Those are a couple of the more interesting things we can do to deal with cash strain on variable annuities.

MR. KELLEHER: I want to leave you with a couple of points. Basically all these reinsurance contracts transfer all significant risks in order for ceding companies to get credit for the reinsurance that's put in place. The issue is that when you look at the contracts from an economic perspective, some reinsurance contracts have a high probability of loss. Some have a low probability of loss. The blocks that are candidates for financing are the ones with a relatively low probability of loss. If the probability of loss is low on any transaction, whether it's a securitization transaction, a reinsurance transaction, or alternatives or combinations of the two, the cost is going to be low. And if the probability of loss is high, the terms are going to have to be adjusted to reflect that. That's it in terms of qualitative observations.

MR. MARTIN E. UHL JR.: My question has to do with the transfer-of-risk concept. Are the rules going to be the same under codification as they are now in the NAIC statutory accounting? You mentioned that under GAAP it doesn't satisfy those risk transfer requirements, but it does under statutory. Does codification affect that at all?

PANELIST: I would say more or less no. Codification would not affect that. The lower risk reinsurance, or what we call surplus relief, is not going to meet the GAAP requirements for reinsurance treatment. Codification, as far as I know, basically, has codified the model reg. So there shouldn't be any change.

MR. ALLAN BRENDER: We're hearing a lot about development of international accounting standards, which are expected to be uniform across all countries or most major business countries. Maybe GAAP and statutory will become the same. And the International Association of Insurance Supervisors is talking now about a uniform, worldwide—or at least in developed countries—capital requirement that might be pretty standard. If that were to happen, and the United States decides to go that route, does that mean you are all out of business?

MR. KELLEHER: I think that if that were to happen, where all the jurisdictions settled on valuations based on expected experience and reasonable provisions for adverse deviation, then a lot of the motivation for doing reinsurance financing would disappear, and the market would probably gravitate back toward more traditional risk transfer products. That's just a personal view, but that's mine. Anybody else want to share their view?

MR. POULIN: I agree with you. However I wouldn't say that we'd be out of business. We would just have to do more traditional types of transactions. Right now there is more opportunity because there are differences between what you would call a GAAP reserve and a statutory reserve. A lot of what we talked about today is just arbitraging with those. So, obviously if there's only one rule, that becomes very hard to do. That's why there's no such thing, or very little of it in Canada.

MR. LEBLANC: The other thing we have to keep in mind is that statutory versus GAAP arbitrage is just one element of financial reinsurance, and there are a number of other motivations. I think Bill put one up—simple tax management. It's fine to say that governments around the world will coordinate their regulatory treatment, but everyone has different fiscal objectives. And cash financing would be another reason that reinsurance that has nothing to do, per se, with statutory requirements.

MR. DAVID PELLETIER: I just wanted to comment on what Alan and Jeff said. I do work in the Canadian market, and our statutory environment is very different from the U.S. environment. The reinsurance for financial purposes is very much alive and well. It does adjust appropriately to meet the needs of different environments. And keep in mind as well that, as Alan says, if this international approach tends to come into the U.S., it would change accounting tremendously. But there will still be huge solvency margins or an RBC on top of that, and reinsurance can do a lot of things to help relieve that as well. I'm confident that financial reinsurance or, I should say, reinsurance for financial purposes will continue, but it won't look at all like the kind of thing we see up there today.

MR. ALEX COWLEY: I work for Lehman Brothers. My first question has to do with surplus relief and the negative tax drag that surplus relief would have when the trade is done. To the extent that surplus relief creates taxable income in the year the trade is done, would a surplus note be a more effective transaction? That's the first question. The second one is more of a statement. Lehman Brothers is an

investment bank, as Richard well knows, and that is to say that one of the advantages of the capital markets is that the capacity is much, much greater than that of the reinsurers. It's measured in the trillions, not the billions. And just to address the issue, which Richard mentioned, it's fairly easy to terminate a capital market transaction. You just go to the market, and you buy back all your bonds.

MR. LEBLANC: I would agree with you that theoretical capacity is much greater in the capital markets. However, I think these types of capital market solutions have been offered for close to 10 years, and 20, perhaps 30, transactions have been done. The vast majority of those have been in the property and casualty area. Very few transactions have been done in the life area, and those that have been done I would characterize more as borrowing than a true transfer of risk. So, I agree with you that the potential is there. However, I think the reinsurers have a definite advantage in terms of understanding the product and in being able to respond more quickly than the capital markets.

MR. KELLEHER: I think that reinsurance financing is one product that's available, and you do have to take into account the tax implications of entering into a transaction like that. Transactions are different, and you should take a look at your needs to make the decision that's right for you and your company. Relating to securitization or capital market solutions for the insurance business generally, I think that you could probably view reinsurers as a private placement market, and they're a private placement market that's very close to ceding companies.

Reinsurers understand differences in underwriting systems and selection systems and the impact that they have on experience. When you've got a situation like that, you've got a pretty good chance that on a private placement basis you'll be able to negotiate terms as long as there's an adequate number of suppliers that would be satisfactory, and there wouldn't be any need to look for a better market solution or to go to the capital markets. To the extent that reinsurers don't seize the opportunity and find ways of meeting those needs, then I think that, over time, there will be more demand, and other markets will have an opportunity to step in and service ceding companies in providing these types of solutions.

PANELIST: I'd just to add that not all surplus relief transactions are tax effective. Through careful structuring, we can create tax-neutral transactions where you're essentially coinsuring a tax overhang. So it doesn't have to have a negative tax effect.

MR. KERRY KRANTZ: One of the questions asked a moment ago was about codification, and in case other people aren't aware of this, a lot of the model laws are now appendices to the *Accounting Practices and Procedures Manual*. For example, if you want to find XXX, the NAIC model number is 830. The appendix in the *Accounting Practices and Procedures* manual is A-830. The other thing that was mentioned is transfer of risk. I think it is important to read the entire model regulation and all of the aspects of it. One of the things that companies sometimes

slip up on, and I've had some treaties modified in order to stay compliant, is that all of the sources of money to the reinsurer must come from the income of the policy, and you can't set up some kind of a retrospective refund to the ceding company that has some kind of provision where X dollars after five years will go to the insurer unless that comes out of the income from the policy.

Chart 1

Differing Views of Required Reserves 20 Year Level Term

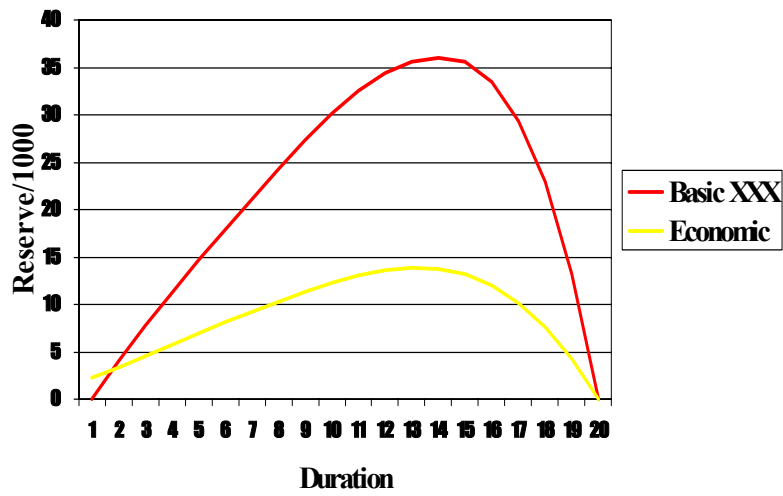
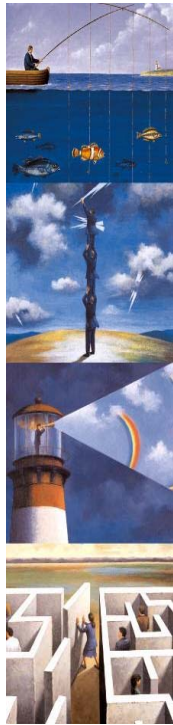


Chart 2

Adapting a Solution

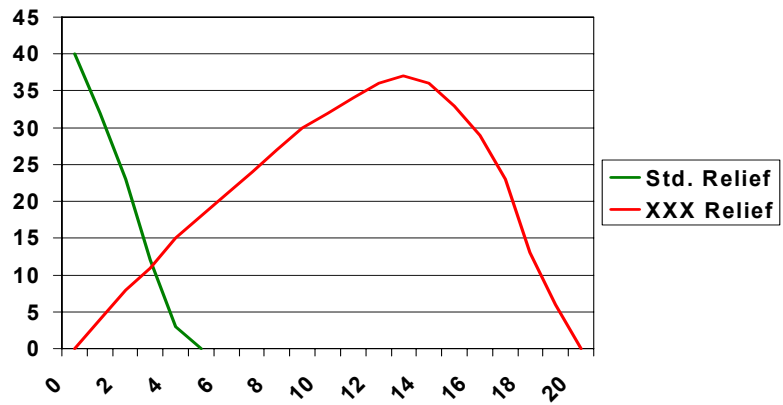


Chart 3

Reinsurance Solution

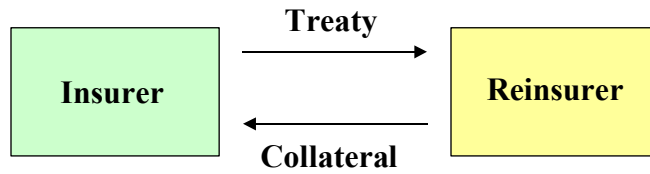
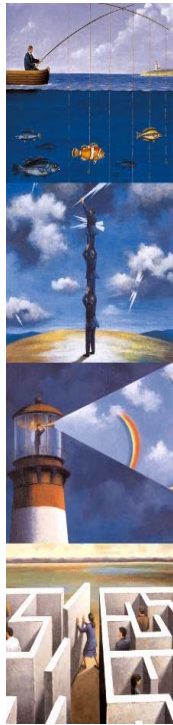


Chart 4



Session 35PD - Problem Solving with Financial Reinsurance
Annuity Financing

Defining the Modco Reserve

