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Session 16OF
Famous Reinsurance Disasters

Track: Reinsurance

Moderator: DAVID B. ATKINSON
Panelists: FAZLI M. DATOO
MICHAEL W. PADO
JOHN E. TILLER, JR.

Summary: The session will cover select and ultimate term—the first-term war; guaranteed minimum death benefit (GMDB) reinsurance—after the bubble burst; and workers' compensation carve-out, spiral and medical reinsurance—redefining the word "special" in special risk. A panel of battle-scarred veterans recounts some famous reinsurance disasters of the not-too-distant past. You won't want to miss this session because, as George Santayana said, "Those who cannot remember the past are condemned to repeat it."

MR. DAVID B. ATKINSON: Here in Disney World it seems almost sacrilegious to talk about disasters, but we'll make up for it by emphasizing the positive and the lessons learned. I'm a student of history, and I believe we can learn much from the past to help us today and into the future. As the philosopher George Santayana said, "Those who cannot remember the past are condemned to repeat it." There are some tremendous lessons to be learned today from our speakers, and I think you'll find some are relevant to current conditions in our industry.

Each of our speakers will address a major reinsurance disaster. Fazli Datoo will start us off with accident-and-health-related disasters, whose lingering losses and lawsuits are still with us today. Mike Pado will follow with GMDB-related reinsurance disasters that got the new millennium off to a bang-up start. John Tiller will conclude the session by taking us back to the select and ultimate term wars of the 1970s and 1980s, which have more than a little relevance today.

Our first speaker is Fazli Datoo. He's executive vice president of Swiss Re Life & Health America. Fazli is also head of the company's Exit Re, responsible for the management of risks associated with lines of business Swiss Re has exited in the U.S. and Canada. Fazli joined Swiss Re in 1998 as chief operating officer of the group division. He began his career with Connecticut General Life Insurance Co., a predecessor of CIGNA, in 1971. While at CIGNA his assignments included business development, underwriting and pricing and ranged over almost as many divisions as there are SOA sections: individual insurance, investment, pensions, reinsurance, international and health care.

He's traveled extensively in Latin America and Southeast Asia and lived in England for two-and-a-half years. Fazli is a Fellow of the SOA, a Member of the AAA and a Phi Beta Kappa graduate of Albion College. He received his master's degree from the University of Michigan, and he was telling me his mother was born in Zanzibar. He was born in Tanzania and received his early education there.

MR. FAZLI M. DATOO: What is a disaster? It's a sudden or a calamitous event bringing great damage, loss or destruction. I will briefly describe three generic types of disasters that have plagued the life and health reinsurance companies in the past decade and a half. These disasters are important, but what is more important are the lessons we learn from them because they may repeat themselves. I want to enumerate and stress approximately a dozen learned lessons that will help you mitigate or avoid similar disasters.

Let's first talk about the workers' compensation carve-out business. It covers medical expenses and loss of wages due to disability and death related to on-the-job accidents or illness. It does not cover employer liability. You must remember that the P&C companies had done workers' compensation for a long time and decided that it was appropriate for life and health companies to take over the carve-out business. That should have been a good signal for all life and health companies to proceed with extreme caution.

How is workers' comp carve-out business marketed? A casualty insurance company licensed to sell the total workers' comp package issues the original policy containing full workers' compensation coverage. Through pool managers or managing general underwriters (MGUs), the "carve-out" piece—that is, the medical and disability portion of the coverage—is sent to life and health reinsurance companies. Because these MGUs and pool managers are fairly knowledgeable in this business, there was no direct management involvement necessary by the reinsurers, a mistake that the reinsurers came to regret later. That naturally led to reinsurers merely providing a naïve capacity. Each reinsurer took only a small percent of the pool. Not having a significant stake, each reinsurer left the management of risk to the pool managers or the MGUs. Renowned competitors were participating in these types of arrangements which made this attractive to other reinsurers as well. The herd mentality was in full swing.

Pool managers were basically in charge, and the reinsurers generally did not object to that arrangement. Pool managers received tidy fees for managing the business based on premiums they wrote, and they wrote a lot. Brokers received fees to place this business down to retros, further reducing the premiums available for claims. Profits for the reinsurers began to decline. That was a first sign of what was to follow. The design of the market was unsustainable and ultimately ended in a disaster with heavy claim losses and arbitration or litigation followed, resulting in further deterioration.

In some cases, in the workers' compensation carve-out business, the pool managers were let go, although they had been prepaid for the services they were to provide. They were replaced by new administrators who then took over the business from the previous pool managers or MGUs. That meant that the reinsurers had to pay the second time to get the same services.

Let me tell you about some of the red flags in the discussions I've had so far. Notice they're MGU-driven or pool manager-driven. Mostly these are mom and pop shops; there is no oversight from reinsurers; too many hands are in the pot; and long-term risk like workers' compensation, which can go for years, is assumed by short-term players with each reinsurer taking a small percent of the risk. These are the telltale signs of a disaster on the horizon.

Let me now switch to what's called a spiral business. This is a complicated business, and I'll try to make it simple if I can. British people call it "passing the parcel." Americans call it "passing the trash." The premium and claim losses are passed from one reinsurer to another, to another, and back again in a chain of excess reinsurance arrangements. It keeps circling.

This passing increased the number of claim transactions, which, in turn increased the amount of administrative work and delayed claim payments. The concept of a spiral itself was not new, but its application to workers' comp was. For example, the catastrophe market at Lloyd's experienced losses in some years, but the catastrophes didn't happen every year. Therefore, it allowed the reinsurers to make some profits in the lean claim years. The one done by Lloyd's is referred to as an accumulation spiral. On the other hand, a workers' compensation spiral is called a contrived spiral. Contrived spirals did a lot of damage. In the type of contrived spiral I am speaking of, there were non-catastrophic losses which were frequent but not necessarily severe. That hurt the unsuspecting "leakage" players, who unknowingly took the biggest risk.

Leakage players are reinsurance companies that are outside the core spiral. They thought they were providing catastrophe-type coverage when, in fact, they covered working layers with little premium to show for it. A spiral tends to escalate gross losses. A spiral loss could easily go from a hundred thousand of the original loss to one million or more in gross loss, resulting in losses being passed from the low-level players to the high-level players. With the increased number of reinsurance

transactions that were taking place, brokers got multiple commissions, as well, and since the leakage players got smaller premiums, their loss ratio increased dramatically.

Let me show you a simple example of a spiral. Reinsurer A buys $240,000, excess of $10,000, from Reinsurer B. Reinsurer B buys the same kind of coverage from Reinsurer C. The C Reinsurer buys the same kind of coverage from Reinsurer D, and Reinsurer D decides that he wants to buy the same kind of coverage from A again. It goes in a circle. Reinsurer A is not dumb. He decides that he wants to get out of the spiral somehow and buys coverage from a "leakage" player (E in the tables below).

Table 1 shows the first round of what happens when a claim comes in.

Table 1

	"A"	"B"	"C"	"D"	"E"	Total
Gross	100+60	90	80	70	0	400
Reinsured	90	80	70	60	0	300
Net	70	10	10	10	0	100

Say the claim is for $100,000. It goes to Reinsurer A. Reinsurer A says, "I will keep $10,000." Remember that he has $240,000, excess of $10,000, coverage that he bought. He passes on $90,000. Reinsurer B passes on $80,000. Reinsurer C passes on $70,000. Reinsurer D passes on $60,000, and so forth. Reinsurer A started at $100,000. He reinsured $90,000. For the moment, his net exposure is $70,000.

Notice the gross loss has increased to $400,000 because $300,000 is reinsured. The reason $60,000 shows up as an addition to A is because Reinsurer D has sent the $60,000 to A. At this point A says, "I have it. Now I'll send this to a second round because now I have $160,000 of losses. I have to reinsure $150,000 of it."

Table 2 shows the result of Round 2.

Table 2

	"A"	"B"	"C"	"D"	"E"	Total
Gross	160+60	150	140	130	0	640
Reinsured	150	140	130	120	0	540
Net	70	10	10	10	0	100

You have $150,000 reinsured by A and so $150,000 goes to B, $140,000 goes to C, and so on. Notice what has happened. The net remains $100,000. The gross is $640,000. The reinsured amount is $540,000. Notice that the number of

transactions has increased again. This is the most important number, and the gross is important.

I will not go through too many rounds. Instead, to make a long story short, I'll show the ultimate round in Table 3.

Table 3

	"A"	"B"	"C"	"D"	"E"	Total
Gross	310	240	230	220	60	1060
Reinsured	300	230	220	210	0	960
Net	10	10	10	10	60	100

The loss has finally settled down, and Reinsurer A gets $310,000. He has reinsured $300,000, and $10,000 is his net. That's what he bought originally because he bought excess of $250,000 from Reinsurer E. Because B bought $240,000, excess of $10,000, he keeps $10,000 and reinsures $230,000, and so forth. What ends up happening is Reinsurer E, who is the leakage player outside the spiral, gets stuck with $60,000. Remember, the original claim was only for $100,000. Reinsurer E thought that he was reinsuring $250,000, excess of $250,000, but he got stuck with $60,000. Now you can see the $100,000 still remains as the net amount, but the gross has exceeded $1 million.

What I went through was a simple spiral example where it all began with only A. Let me get more complicated. Suppose B, C, D also had similar ideas and let's suppose there are a number of leakages available, such as E_i, i from 1 to n. When you have a number of leakage players, what's going to happen is that each leakage player will get a small proportion of the net loss and it will take a while to fully grasp the financial impact. Ultimately, however, truth will prevail.

Surely as night follows day, the contrived spiral led to disputes when many reinsurers refused to pay claims because they realized they had been had. Lawyers got involved. Consulting actuaries got involved because they wanted to collapse the spiral to figure out what the ultimate liability was, and the cost to reinsurers increased dramatically. What that led to was a dwindling trust in the industry, the trust that was so important to us in the reinsurance industry. That said there were side benefits as well: there are now more arm's-length negotiations and more audits done by reinsurers, which is a good thing.

Let me give you some red flags to consider: carefully investigate and understand any risk that you take. Make sure that you don't put your buddy at a disadvantage in the process. Be wary of arbitrage devices. Finally understand that too many touches by various parties are causes for concern.

Let me go to the medical piece. This is the third disaster I'm going to describe. This is a small group policy written by a small company in the upper Midwest. It's

supported by many reinsurers. Each reinsurer kept a small percent of the risk. The underwriting and administration were managed by an MGU. Regulatory compliance and claims administration were done by third-party administrators (TPAs). The product was structured as a group policy in one state and then marketed to individuals in other states to avoid the second state's restrictive small group laws.

This is a tale of legal proceedings, and all the reinsurers and the insurer were sued by three plaintiffs, all represented by the same counsel. The charges included conspiracy to defraud customers and evasion of the regulatory requirements. The plaintiffs also alleged tort, fraud, bad faith, racketeering, breach of contract, and violation of criminal statutes concerning forgery, theft by deception, false statements, mail fraud and wire fraud. You name it, they have it.

The defendants—the insurance company and its TPAs—claimed nondisclosure and misrepresentation by policyholders. Before going to a jury trial, two of the defendants settled out of court, but the insurance company went all the way to a jury trial where the claimant was awarded, first time, 350,000 times the original claim denial. The denial was for a $41 claim for a heart medication. The claim triggered an investigation by the insurance company which led the insurer to decide to rescind the policyholder's contract because of a preexisting condition not revealed in the application. The policyholder sued. In reality what happened was the insurer's agent had changed the application to show no prior medical history and forged the policyholder's signature before submitting the application to the company.

The policyholder was awarded $14 million for the full value of the medical benefits payable over the life of the policy (trebled under the RICO laws of the state), including bad faith and punitive damages. Ultimately they received about half the amount because of the appeals. The point I would like to make is that the selling of an insurance policy carries with it market conduct issues. This unfortunate incident has led the insurer to the verge of bankruptcy. And the reinsurers have suffered large losses, all for a $41 claim. The red flags are indiscriminate outsourcing, retention of a small percentage by the cedant and questionable marketing ethics.

Let me talk about the lessons learned. I'll give you a dozen. First, there is no free lunch. If profits are earned without the assumption of risk, it's time to reexamine. Are the risks camouflaged? Be on the lookout for unexpected or even unethical gains. Reinsurers should avoid the allure of making a fast buck.

Second, don't be fooled by the veneer. Put another way: All that glitters is not gold. Look carefully from every side until you're convinced that proper consideration has been given to every aspect of the risk.

Third, do more homework. You'll always do better if you are well-informed. Perform exhaustive due diligence, remembering it is better to spend money up front than later in claims and litigations. While doing the homework, develop scenarios for the

future. Get opinions from the actuarial side, underwriting side, legal and systems. Also understand the marketing issues involved in selling. Finally, don't forget the lessons you learned from previous mistakes.

Number four is don't part with your pen. In fact, guard it jealously. A corollary is not to get into a business you don't understand. It is far better to invest in expertise than to suffer the consequences of poor outsourcing, which is what happens when you part with your pen. While I'm on the subject of parting with the pen, I will add that the use or loaning of your company's paper needs to be carefully examined and thoroughly thought out as it could come to haunt the company in the future.

The fifth lesson is: Don't rush into a deal. While speed is important, it is preferable to be deliberate, thoughtful and methodical. Learn to walk away, particularly if it doesn't make sense or it doesn't smell right. If it doesn't smell right, you know something is missing.

Number six is be aware of the economic basis of various parties that are providing services in a multifaceted business venture. Misalignment of rewards or penalties will not bode well for partnership. When there are too many players participating in this kind of venture, by definition, there will be some misalignment. The point is to avoid gross misalignment. For example, if the only party to lose is a risk taker while others in the venture make a profit, think again.

Point seven: Do business with parties that are likely to remain in business for a long time, especially with lines of business like workers' compensation, which has a long tail. This requires assessment on various fronts—the history, the present and the future in the areas of capabilities of your third parties, key staff members and personnel development. Reputation, business conduct and financial strength are important, as well. This includes cedants, retros, MGUs and TPAs. They're all included in this.

Eighth lesson: Always keep the parties fully apprised of the developments as they happen so that the relationship is open and lasting. Don't be unduly influenced by a competitor. It is true that what competition does or does not do is important. However, it is crucial that your reactions support your strategy. Taking a small percent of a questionable business will not make the business less questionable. The days of "2 percent Charlie" in the reinsurance industry are over. Risk assessment is your job. Don't relinquish it to a competitor. You should take an active and positive action and not be passive or dependent on others.

Point nine is: Document and develop treaty terms that are consistent with your understanding. Don't rely on boilerplate language from past treaties or development by outside parties.

Next, proactively manage the risk with a clear understanding of the risk

parameters. When something goes awry, immediately take necessary steps. Waiting is not a good idea. “Audit, audit and audit” should be the mantra, but this shall not be at the time of difficulty alone, and when the auditors write reports, be balanced. Don’t ignore the bad underwriting, nor should you ignore inadequate claims payment processes. Ask the auditee to change if you think it’s appropriate and insist on prompt responses to your audit reports. Constructive recommendations are helpful. They’ll go a long way in avoiding disputes and in some cases will help you negotiate disputes in the future should they develop. If your recommendations are going to be disregarded, you should probably get off the risk as soon as you can.

Next, a large portion of business that’s reinsured should be a concern. When the cedant doesn’t have much risk at stake, decisions will be made that will not be in favor of the reinsurers. Sometimes this leads to arbitrage decisions, which is a clear warning of problems to come.

Finally, don’t be afraid to develop an exit strategy. It’s somewhat akin to a prenuptial agreement. It’s an easier discussion than you think, and it clarifies expectations.

All that said, inevitably there will be surprises. This is, after all, the insurance business. While the future is hard to predict, there are steps we can take to mitigate the true surprises by following sound underwriting principles and relying on business judgment and experience. Remember the dozen lessons, and you’ll have covered many, if not all, soft spots.

MR. ATKINSON: I know many companies had to learn those lessons the hard way, and in particular my own company might have saved as much as $200 million had we heard these things 15 years ago.

Our next speaker is Mike Pado. Mike’s president and CEO of Convergence Re, a New Jersey-based company providing consulting and arbitration services to the life insurance and reinsurance industries. Prior to Convergence Re, Mike served as president and chief underwriting officer of AXA Re Life and was also a director of AXA CS Life Re focused on the reinsurance of GMDBs and guaranteed minimum living benefits (GMLBs).

Mike brings to bear 25 years of insurance and reinsurance experience having worked for Swiss Re, Coopers & Lybrand, Mutual of New York, Travelers and AT&T. Mike is a frequent speaker at industry events and also is a Fellow of the SOA and a Member of the AAA. He’s involved in an array of industry organizations and committees. He obtained two degrees from Rutgers, first a B.S. in mathematics and, about 10 years ago, an M.B.A.

MR. MICHAEL W. PADO: In preparation for today’s talk under the ominous title of “GMDB—After the Bubble Burst,” I thought it might make sense to go back in time

and find out what I said about reinsurance and GMDB in the past because I've spoken on this topic a number of times at SOA events and other industry committees. I went back to the *Record* for Session 118 of the October 1997 meeting, and I remember opening my talk with a quote from none other than Tim Ruark, one of the pioneering actuaries of variable annuity reinsurance.

I cited the fact that Tim once wrote "There are two kinds of actuaries: those whose careers will end due to the variable annuity GMDB and those who will move into their offices." I thought Tim was ahead of his time that way. It might be important to note that Tim never mentioned the word "reinsurance" in his statement. He got me thinking about both the insurance and the reinsurance sides to be somewhat complete.

Today we'll talk about the immediate effects of the bursting bubble on the industry at large, and we'll discuss the nuance between whether there's a reinsurance disaster or a disaster involving reinsurance. I believe there is a distinction. We'll talk a little bit about the evolution of the reinsurance market for these covers and some of the issues that market participants faced, still face and will face going forward. Collectively we'll examine what we should have learned from that and what we might expect in the future.

Everyone has seen a number of graphs about the bubble bursting in early 2000. We know that the Standard & Poor's (S&P) dropped from a high of about 1,500 down to 1,029. The NASDAQ fell from 4,573 in March 2000 and closed on Friday at 1,371. Clearly there's not been a lot of recovery. There's still a lot of downward pressure. The Russell 2000 closed in March 2000 at 539 and fared a little bit better, closing Friday at 506. It's not quite as dramatic as the other two indices, but, nonetheless, almost every market index that you look at in the domestic market fell dramatically for nearly 30 months.

This was not just a North American problem. I looked at *The Economist* for June 29, 2000, and there were at least three major indices showing negative one-year returns already at that time. The FT-SE was down 9 percent. The DAX was down 13 percent. The Nikkei was down 55 percent. This is a global phenomenon affecting equity-based products.

What was the immediate effect? The account value plummeted, and I knew this from two perspectives. One was from being a reinsurer of this business but I also was a policyholder. I took out a policy in August 2001 and received nine subsequent statements in which the account value continued to fall despite the fact that my funds were allocated across 10 separate accounts with asset rebalancing. I got to experience it as a policyholder as well as a reinsurer. It was clear that the business was under pressure.

One immediate effect of that was that exposures ballooned, the exposure being the difference between the GMDB and the account value. That increased dramatically. I

recall at my last employer we had a way of looking at this particular risk, and it increased by a multiple. Every quarter the amount would go up in terms of that measure.

It turns out that as exposures balloon, so do claims. With this particular benefit, it used to be that with the market running up, if there was no exposure, you could experience claims but not experience any claim amount. It would simply be a death. But now it turned out almost everyone who died with a variable annuity generated a GMDB claim, and notice I haven't used the word reinsurance yet. That was the immediate effect on that side.

Revenue decreased because most contracts are designed with a provision for GMDB, whether it's implicit or explicit, by being a fixed number of basis points times the account value. There's one charge for all. As the account value is dropping, so is the revenue to the holder of that risk. Because of the exposures increasing, reserves increased dramatically under Guideline 34, which has a drop in recovery methodology. Reserves increased faster than everything else. It had a high beta, if you want to think about it that way.

What do increasing exposure, increased claims and decreasing revenue mean? Income statements took a giant hit on the statutory side, and so did balance sheets. Managements became wary of this risk, because in my mind many primary companies originally went into the variable annuity market to shift investment risk over to the policyholder. While that's still true on the account value and liquidity sides of the house, the issuance of GMDBs and GMLBs brought home a new type of risk that was far more complex than investment risk. In fact, some have described the GMDB as a long-dated, exotic, automatically exercising, path-dependent, basket put option. It makes you think about it in a different way. Managements grew wary, and there was some reckoning to be had.

If there was a reinsurance disaster, whom did it affect? I kept thinking to myself the only people that it could possibly affect are stakeholders, and the first five that came to mind are policyholders, producers, insurers, reinsurers and retrocessionaires. From a policyholder point of view, I think that their greatest concern had to do with their declining account value. They may have been concerned about liquidity, and they may have appreciated having these guaranteed floors in their contracts, but I think they were a bit apathetic about who their insurer's reinsurer was at the time.

From a producer point of view, I saw somewhat of a similar type of perspective where they were now happy about the existence of these guarantees because they had put people into a mutual fund-like product. Account values are going down, which enabled them to point to the guarantee and say, "These are the values of the guarantee," and it's rather explicit. Some people gained some comfort by that. In any case, I think it helped vindicate the producers.

From the insurers' point of view, it's a different story. Some reinsured, and some did not. Many were afforded the opportunity but for one reason or another did not enter into a reinsurance agreement. The stumbling blocks, as you might imagine, had to do with terms and conditions over premium rates, premium bases, claim limits and/or capacity limits in terms of time or volume. There could have been reinsurance agreements transacted that were not entered into, over the course of time.

There were, however, some insurers that did enter into reinsurance agreements and laid off those risks to the reinsurers, which, after this bear market, seems to have been a good idea. Other reinsurers who had gotten into the business wanted to exit it, but now they already owned the risk. Their only choice was to give it to retrocessionaires which in some cases they were able to do for a short period of time.

The stakeholder list shouldn't be limited to the prior five. It turns out that there are three more important ones: regulators, rating agencies and investment analysts. It turns out that regulators were becoming increasingly concerned about this type of risk. Newer products were being brought to market, and many things were unsettled, such as reserve basis, capital standards and risk management.

I know from talking to primary writers of the business that many regulators during the policy approval process were starting to ask how to handle this risk. What is your risk management policy? At one point people were saying simply that their answer had been that they reinsured it. Apparently it had been necessary to say that and it was also sufficient for some period of time, but that's since ceased to be sufficient.

For now the regulators want to know what the reinsurer is doing with the risk because they realize there is a systematic market risk associated with it, and if it's all funneling down to a few companies, they become increasingly concerned. I remember being in the uncomfortable position of dealing with one primary company that was left in a position of having us, as a reinsurer, participate in its policy approval process and having to answer to its regulator about our risk management capabilities and what we were doing with the risk. It changes the role of a reinsurer to be part of that process because you realize if you don't answer the questions to that regulator's satisfaction, that primary company might not be able to sell its new product design in that state. It's a different role for a reinsurer and one that may stick around for a while.

Rating agencies became increasingly aware of this option-like risk, and have written a lot more about it. I think Moody's might have been the first company that came out with the bells-and-whistles article way back when, but since then I think all rating agencies have picked up on this type of risk and have focused a lot more on your risk management capabilities whether you're a primary writer or a reinsurer.

It's no different for investment analysts. I think they picked up on this, as well, often asking questions such as "Do you have the pricing right for this? This seems like a catastrophic risk. Have you priced it correctly? Is there enough margin in the rate for future claims?" In my mind the views of these three shareholders shape the view of the five groups that we looked at before. It's important that they be adequately satisfied.

As I mentioned, there is a subtle distinction between being a reinsurance disaster or a disaster involving reinsurers. I suggest that, if the market had turned out to be a bull market rather than a bear market, insurers that did not take the opportunity to reinsure would have appeared to be smart in the sense that they avoided buying what appeared to be expensive reinsurance at the time. But it didn't turn out to be a good market; it turned out to be a bad market. These people now have to answer to their managements, their boards and their shareholders as to why they did not enter into an agreement they otherwise could have.

Those insurers that ceded to reinsurers are now looking good, having made a good decision and having dodged the bullet. They are now showing up at board meetings happy to report that they had secured reinsurance coverage—for a limited amount of time and for a limited volume, but at least they got it. Another implicit message when they say, "We have reinsurance for a limited amount of time or volume," is that it may not be there in the future. It's sending a not-so-subtle message through the boards of companies that feel compelled to include these products in their overall portfolios.

Who were the participants in the market? It turned out that the reinsurance market for these types of covers began in the mid-1990s with Transamerica, CIGNA Re and Swiss Re supporting the market. I think it's fair to say that, of the three, CIGNA perhaps wrote the most business, and while there are no industry statistics to support it, it's my belief that they came close to writing about $100 billion of underlying or so. I think Swiss Re was about one-third of that, and Transamerica around the same. All three now have exposure to that benefit but have since put those lines into runoff, and now they're simply monitoring and managing the exposure.

RGA Canada forayed into this type of market a little bit later by focusing on Canadian segregated fund guarantees that had both a death benefit and a living benefit in them, but I understand that because of a clarification of strategic direction within RGA, it engaged in it for only a short period of time. It's no longer in that business. AXA Re Life was reinvigorated in about the third quarter of 1998 and maintained as its main business GMDB and GMLB reinsurance that accounted for approximately 75 percent of its premium revenue. It took a strategic focus on this particular type of business.

Other players on the domestic front included London Life Re and CNA Re, which participated at somewhat lower levels at the same time. Up through 1998 and

1999, the whole reinsurance market was an onshore market for this particular risk. Shortly thereafter Annuity & Life Re came into existence and started writing this type of business in 1999, followed by ACE Tempest Re in 2001. It seems that if you look at that list of companies, there's only one left sitting: ACE Tempest Re. I think all the other companies have chosen to put this type of business into a runoff mode and not support it anymore.

Among those participants, some fared better than others. I divided the group into winners and not-winners. The delineation between the two has to do with their focus on their processes and procedures relating to risk taking, risk monitoring and risk management. The winners, on the whole, tended to look at this risk more like a catastrophic risk. Through solid underwriting and risk management programs, they entered into more of a nonproportional type of agreement. These agreements tended to include things like revenue stabilizers, claim limits and capacity constraints. It was an attempt to reshape the risk such that there was a decent risk/reward relationship.

The winners also had an extraordinary focus on procuring credible data on a timely basis, for it stands to reason that you cannot manage the risk if you cannot monitor it. In fact, some of the agreements made the receipt of credible data on a seriatim basis in an electronic format equivalent to the receipt of premium. This is big business, serious business.

The winners had an extraordinary focus on controls from an underwriting point of view, from a desk audit point of view and an onsite client audit point of view.

The not-winners in this process tended to be a little bit more dabbling in the market and tended to run and gun, perhaps being forced into the relationship to get traditional mortality risk reinsurance. They were being levered into participating in a business that they might not have fully understood and didn't staff up to underwrite and manage going forward. Most of these agreements tended to be more of a proportional nature. They were exposed to situations in which a declining account value produced declining reinsurance revenue at the same time as exposures and claims ballooned.

I maintain that the not-winners also had too little focus on obtaining credible data on a timely basis. If so, even if they were able to get it that way, they got it too infrequently. I think they put themselves in the position of being unable to monitor the business often enough and efficaciously enough to ever get around to managing it. Last is poor treaty language with respect to these complex agreements. I don't think it's enough to try to write a GMDB cover simply using your traditional mortality risk reinsurance agreement. There are too many differences and too many complexities to go that route.

Participants in this business have a number of issues and problems, and their extent depends on who they were, what they did and when they did it. The bear

market did arise, so certain companies got into this business almost exactly at the wrong time and wrote too much business at the height of it before it started to come down. But regardless of who they were, everyone suffered relatively poor stat results as revenue declined, claims increased and reserves increased.

If that wasn't enough, as boards were starting to ask about all of this negativity, it turned out that the actuaries had to show up and report that the foundation was not firm. They had evolving reserve and capital standards. The accountants had to show up and say, "Yes, we have reserving accounting standards." People began to get the feeling that they had ventured into a business arena in which the foundation was not firmed up and not secure, and it caused most companies that were participating in that business to end up withdrawing.

It was a bit of bad timing and there was also bad press as CIGNA announced a big charge to earnings to get itself off of future market risk. That only aided and abetted the problems at the time, and boards ended up being troubled, mandating no further participation for those who were already in it. Also, I've heard a number of people say there's no future participation for those who avoided being in it. It almost seems closed off in both directions.

What this means is that for most, if not all, business is now in a runoff mode. There's always the chance that you'll have somewhat of a decreased focus on data and controls. It's hard to get people at a reinsurance company, especially qualified staff, to be working on a declining book of runoff business instead of participating on a new product design and new product efforts that are going on. It's a bit of a problem that way.

I also think that there's the potential for increased disputes, because as the actuaries and other business line leaders leave the particular market and perhaps lawyers move in, you have a situation in which people start looking at the agreement itself to figure out whether there's a way to back out, at least through contractual terms. You might see an increasing number of disputes as time goes on in terms of premium calculations, claim reimbursements, reserve credits and/or recapture provisions.

What we should have learned from the insurer point of view is that you do need to secure your protection program prior to product rollout. I know that a recent issue of the *Reinsurer Reporter* argued that the reinsurers could be blamed for the GMDB mess, and I take issue with that. The reinsurers came along to support product development and product implementation that was already out into the market.

You need to find a way to avoid being boxed into retaining your risk if you have no efficacious way to shed it to a third party. Before you roll out the product, you need to worry about who your provider is, what the cost is, what the capacity is and the availability is. With new products you can't necessarily give the reinsurer all of the risk with unlimited capacity. Regardless of whether it's GMDB or any other risk, I

think it's unreasonable for anyone to expect that.

From a reinsurance point of view, what we should have learned was that you cannot dabble in this business. You need to set a strategy and procure a broad-based mandate. You're developing a new product line—GMDB is a good example, but there are others—and you need everyone in management to understand what it is you're doing. To do it well you need to obtain adequate resources in terms of human, structural and financial capital, which we'll discuss in a minute, and you need to institute control systems and report out often. I found that with respect to the GMDB and GMLB businesses, almost every person who entered the room needed to be educated about what the risk was and how you were handling and approaching it.

Particularly in the reinsurance world, as managements change, it becomes an incessant endeavor to continually educate people as to your risk-taking endeavors. It doesn't stop with management—it's often the subject at board meetings, as well. External board members don't necessarily feel compelled to be offering these types of products in the primary arena anyway. They're content to look at it as more of a banking product than a reinsurance product. You run into some issues that way. You need to pay attention to the details, which are characterized generally in treaty terms of rights and responsibilities as you move through the contract. I again will focus on the ability to procure credible data on a timely basis. You cannot manage the risk if you cannot monitor it.

In the future you may see new niche-oriented reinsurers emerge to fill the gap. Demand far exceeds supply. There are people in the environment who have an interest in this particular area. If you talk to investment bankers, many feel that the solution will come from outside the industry, not necessarily from within it. Having said that, the efforts would likely be supported by private equity groups and perhaps by primary insurers, as well. While that might sound like an unusual notion to most of us, it turns out that ACE in the late 1980s was formed with industry support, and recently MBIA invested in a reinsurer for the same type of situation. It was basically to get capacity of preferred rates into the future.

A reinsurance company will have to act as a derivatives product company as well as a traditional life reinsurance company. As a result, it will be subject to extreme scrutiny by clients, investors, rating agencies and regulators. This new breed of reinsurer will need to factor in technology as part of its strategic business plan. It'll play an extremely large role in the reinsurer's capabilities. These types of companies will assume only risks that can be hedged.

To make that work, as with any company, these companies will need sufficient human, structural and financial capital. I'll focus only on financial capital in the interest of time. It seems that the company would need to have adequate capital to support its net risk-taking capability. You're assuming this risk in. You're hoping to lay off the capital markets risk through the use of derivative securities, in

particular, but you'll still have risk that you need to retain on your books and the capital to support that.

That may be the starting point. I think you'll need additional capital to satisfy regulators when the NAIC comes out with the risk-based capital standard that will surely affect reinsurers. Last, you may need to provide even more capital to satisfy rating agencies, which may require an even higher level to get to a certain investment grade rating.

In conclusion, I think that there are only three ways to control the GMDB risk. One is through product design, but it seems that—and this also applies to living benefits—if you're the primary writer, it's only through product design. If you're the reinsurer and wish to assume this type of risk, it's only through treaty design. If you're a primary writer, you can lay off the risk in one of two ways: by using either reinsurance or a hedging program. They don't need to be mutually exclusive. Perhaps both could be used concurrently. That's number one.

Second, I believe that many market participants made some mistakes, primarily by dabbling and not focusing on the risk and not staffing up adequately to handle it, not only now but into the future. It is a long-term risk that needs to be managed.

In conclusion, I would say if you or someone else cannot hedge the systematic risk, don't write it as it could result in a disaster, reinsurance or otherwise.

MR. ATKINSON: I know a lot of us, including my company, were tempted during the bull market of the 1990s, watching all these companies making tons of money on GMDB, taking in those basis points, never paying a claim, but it's much easier with 20/20 hindsight to see how this works out. There but for the grace of God went a lot of us.

Our next speaker is John Tiller. John and I go way back to 1975 when he was the top reinsurance actuary for Occidental Life, which is now called Transamerica Re, and I was a new actuarial student. John is now president and CEO of GE's ERC, a global life and health reinsurance business, a position he assumed back in 1998. John started his career as a life insurance agent. In 1970 he moved into an actuarial role at Occidental, where he rose to become vice president and actuary. He joined Tillinghast in 1984 and became a partner there. John was also executive vice president and chief actuary for Primerica, a subsidiary in Ft. Worth, prior to joining KPMG in 1993 as national partner in charge of actuarial and insurance consulting. Along the way John co-authored the book on reinsurance, *Life, Health and Annuity Reinsurance*, which has been part of the SOA syllabus for about 15 years. John's also a fellow of the SOA, a member of the Academy and graduated from Harvey Mudd College, a competitor of ours, in Claremont, Calif., with a B.S. in mathematics. It's my pleasure to welcome John Tiller to the podium.

MR. JOHN TILLER JR.: In listening to the other two presentations, I realized the

themes and major elements of our presentation are largely interchangeable. The details are different, but the lessons are much the same.

One point Fazli addressed was manmade disasters. In fact, everything that we are discussing in this session should be taken very seriously by the people in this room because these events are actuarially made disasters. These are the things that we as actuaries should have dealt with or seen in a different way a long time ago.

My topic today is "the term wars," that is, the original terms wars of the late 1970s and early 1980s, not the recent remake. My comments are focused narrowly on the United States life marketplace. The environment in the late '70s for the industry was different from today. Career agents were the favored distribution channel. Traditional whole life was the dominant product, in both the participating and the non-participating forms. The vast majority of life insurers didn't understand term insurance, and I am not convinced life reinsurers were much more informed as a group.

I was employed in the Reinsurance Division of Transamerica at that time, and the primary arm of Transamerica was the leading term writer in the world. Much of my time was spent with our reinsurance clients, explaining how term insurance could be a positive thing for both the company and the policyholder. About 10 major brokerage companies dominated the term insurance business. The industry was profitable in spite of its collective decisions and high acquisition costs, largely because interest rates were significantly higher than anticipated and mortality was even more significantly lower than anticipated–and rapidly improving. Reinsurance was used primarily for excess risk.

To illustrate, it is useful to consider some of the agreements in force at that time. When I started in the reinsurance business, Meno Lake was the chief actuary for Transamerica, and he shortly thereafter became president and CEO. In the 1940s and 1950s, Mr. Lake had managed the reinsurance ceded and accepted portfolios for Transamerica. Transamerica started in the reinsurance business by trading first excess layers with Lincoln, Republic National and BMA (note: two of these are no longer around and the third is under different ownership). Once a year we conducted an in-depth review, and every year Mr. Lake would look at me and ask, "John, are we still getting a dollar per thousand per year profit on the reinsurance accepted business?" At first, I answered, "Yes." Then came the day that I had to say, "No, it's not quite that large." Eventually we got to the point where I had to talk about a dollar present value of profits per thousand. Mr. Lake was a wonderful man. I am glad he retired before I had to disclose the current levels of profitability. But, those were the "good old days," when profits exceeded current premiums, and we had some room for error in our pricing.

But, with our collective "wisdom," we reinsurers we led ourselves and the industry into something different. What were the environmental changes we had to deal with? Primarily, we had a product revolution around 1980, plus or minus three

years. Nonsmoker rates came into being and then various “preferred” rates. Nonsmoker rates made a lot of sense, and the early preferred rates made a lot of sense. It is not clear that the current level of preferred rates makes much sense.

The original term wars started with a product known as “annual renewable term to age 75,” which quickly became “annual renewable term to age 100, or “ART 100.” These products led the way to unbundling, but even these products made some sense, as long as the higher lapse rates were taken into consideration.

But, then the industry came up with the so-called “select-and-ultimate term,” also known as “graded premium whole life.” In addition to making gross premiums look like the actuarial tables (instead of level premiums), this product took advantage of IRS Code Sec. 818(c)–a provision that no longer exists. Under 818 (c), for a whole life product, insurers were allowed to hold a modified reserve and receive a $21 per thousand tax deduction (later reduced to $18 per thousand).

Follow the math here. You get a deduction of $21 for reserves you did not establish. That results in about an $8 tax deferral until the policy lapses. At that time, investments yielded about 10 percent or so. The profit on the interest on the deferral was greater than the profit on the underlying mortality. That consideration came to override the profitability of the basic product–after-tax profits greatly exceeded pre-tax profits. Put differently, I saw products that lost money on a pre-tax basis made profitable with the application of Section 818 (c).

Consider this: does it ever make sense when your after-tax profit is significantly higher than your pretax profit? We saw a situation in which companies were giving away their pretax profits. One reinsurer actively collected the business from a number of clients, put it into a retrocession pool and, in effect, sold or retroceded these tax deferrals. In the two-month period following the first such agreement, term rates dropped significantly. The rates in this industry have never recovered, even though 818 (c) was eliminated two decades ago.

Along with nonsmoker rates and the fast growth of term products, universal life was introduced, complete with its inherent unbundling of the elements of traditional whole life. Now, this was good for the policyholders and good for the companies, except that for some reason the industry decided to embed select-and-ultimate cost of insurance (COI) rates in the middle of that product also.

Reentry term was the “really fun” product fling of the term wars era. The first time I heard of reentry term was when the actuary for one of our reinsurance clients called me. His company wanted to have ‘this reentry product.’ “We’re going to allow the clients to requalify each year if they want to, for new select rates at the new issue age.” I asked, “Don’t you think this is kind of dangerous?” “No, we think less than 10 percent of the people will do it.”

As David mentioned, I used to be an agent, and this concept looked ill-conceived to

me, as an actuary. At this point, insurers should realize the agent's interest and the policyholder's interest was in a new "re-entered" policy with lower rates. Now, the idea of a low number of reentries might have worked had there not been competition, but once one company introduced it, another company copied it, and so on. Now, companies were faced with the agent-policyholder combination that favored moving the policy to another company, with the policyholder having lower rates and the agent receiving a new commission. The original company, to cover its first acquisition cost and to preserve some semblance of the original underwriting class, typically decided to pay another acquisition cost to keep the policy in force. There were situations of people moving to different insurers eight or 10 times on the same policy, but often with the same reinsurer.

This was clearly a time of rapid, fundamental change. The tremendous mortality improvement experienced during the 1970s and 1980s is probably the one thing that saved us during that period.

What was happening to the reinsurance world? More term products were developed (along with lower COIs within universal life products), especially by brokerage companies. Insurers wanted to keep the agents home. But they did not want to keep the risk—not risks that they did not yet understand or trust. So, a typical response was, "Let's shift to lower retentions and high quota shares." Reinsurers saw great, wonderful volumes of business, they saw mortality improvement, and they thought it was wonderful. Dave and I were at Transamerica, and at that time Transamerica was the largest writer of term insurance in the world. It was professional, was coming out with new leading-edge products, and had control over what it was doing.

Even Transamerica decided to reduce its retention and enter a quota share program. Some of my reinsurance friends from other companies offered to reinsure this business. I politely asked them why they were willing to take this great retention reduction, and everybody said, "If you've got to take a chance, take it with the world's number one expert." I thought to myself, "The world's number one expert just said it doesn't want this business." But, I let them do their deal their way.

The story played out. The truth is, the mortality turned out to be good, probably somewhat better than what priced for. We did see the mortality improvements we anticipated at the time. However, the reinsurers and direct writers largely missed the persistency. Companies were pricing with the old Linton B and Linton A tables, which were derived from 1930s whole-life products with mutual companies. If you are not familiar, a Linton A table called for 10 percent lapses in the first year, 8 percent in the second, 6 percent in the third, 4 percent in the fourth, 2 percent thereafter. Linton B lapse rates were just double those of the Linton A schedule. Lapse experience on the ART 100 and re-entry term type products was closer to 20 percent to 25 percent annual lapse annually.

The problem with term insurance profitability in this era was not mortality. The problem was the persistency. What we also did as an industry, though, was allow the insurers to largely forget about mortality risk. We still see the effects of that today. The mortality expertise has shifted to the reinsurers.

But do you know something? The reinsurers didn't have any more data than anybody else had at the time. Think about it; reinsurers get all of their data from the ceding companies, and the quality of their information is no better than that which is given to them. Reinsurers may have broader access to data once experience emerges and it is submitted by their clients, but they do not have actual experience on new ideas. No one does.

What are some of the outcomes of all this? The poor persistency drove poor earnings. There are many examples of insurers moving annually. There's a legendary story of one company that wrote a policy, and the reinsurance on it was 100 percent first-year allowance, producing a first year profit for the insurer. But the reinsurance caused a cash loss in the second year. One large policyholder actually renewed, and the chief actuary called the reinsurer, saying, "Give me new terms. We didn't expect the policyholder to renew." That always struck me as a very strange thing to say.

Basically, given the high lapses, the reinsurers could not cover their acquisition cost, and a number of them had to write-off their deferred acquisition cost asset (DAC).

In a spring '83 SOA meeting in Chicago, there was a one-day term seminar. I was not in attendance, but shortly after this seminar, the whole industry seemed to be aware of and acting on a number of the issues. All the major reinsurers undertook some repricing or withdrawal of capacity regarding term products. Over the next three years the reinsurers took their DAC write-offs I referred to above. Many reinsurers were sold or significantly downsized.

One lesson here is for the reinsurers: do not believe your competitors know more than you. Do not believe they are smarter than you; they are not. Stick with what you know.

What are the similarities to today? We have large quota shares, low retentions by primary insurers, what I believe to be an unhealthy reliance upon the reinsurers for mortality knowledge and mortality protection, and an industry that is dependent upon unproven assumptions. This time the issue is about "starting mortality" and generic improvement in mortality. There is continued improvement in underwriting screens. Around 1980, we started looking seriously at smoker/nonsmoker differences. That situation was clear and well documented. Smoker mortality was at least two to three times that of non-smokers, and we had a lot of data.

Now, we are "guessing" about things such as whether a cholesterol reading of 180

will produce meaningfully different results that a reading of 200. And by how much and how soon? Let me be clear; it is not going to affect the first-year mortality much at all. It will probably affect the 20th year mortality, but that is not going to help on a 10-year term.

We have lapse-supported elements, and yet we appear to be depending on people to persist in order to meet our mortality assumptions. If we have higher persistency, the industry will find some of these products are underpriced.

Next, we have some very overly simplistic offshore solutions to the capital demands created by the working of Regulation XXX. My understanding is at the spring meeting there was some discussion around $23 to $25 billion of capacity needed for XXX reserves for a business that was already on the books. A $30 billion figure might be closer for today. Do we believe that this industry is going to be able to have $20 to $30 billion of letter-of-credit capacity or other derivative capital available to it in the next decade? Does anybody believe that is realistic?

Capacity is becoming more limited, due to capital requirements. Rating agencies are moving the standards, almost continually, resulting in lower rating for many if not most insurers and reinsurers.

Are we destined to repeat the past? There are a few lessons here, and they are similar to Mike's and Fazli's in many ways. Why do we continue to use optimistic assumptions to justify pricing? What seems to be happening in the industry right now is we are using our most optimistic assumptions on mortality improvement and our underwriting improvements, as our baseline, not as a sensitivity test. If our most optimistic assumptions form our baseline, we have lost a very valuable and important component to our pricing—recognition that any actuary will be wrong and that a balanced view allows for both good and bad deviations. As an industry, we have allowed for no fluctuations from pricing assumptions, other than to be worse.

Reinsurers appear to have pursued volume without sufficient wisdom or respect for what can go wrong. Again, I worry about the lack of margin for error.

In my mind, insurers have been abdicating responsibilities to the reinsurers for many of the basics, which is similar to the GMDB business Mike discussed.

The cost of capital in the reinsurance business is underpriced. And there is a misconception that reinsurers have a lower cost of capital, basically available for the use of their client. There are several senior officers from reinsurers in the audience. Which one do you expect to go to his or her shareholders and say he or she is willing to take a lower return than your clients? Which one of these officers do ceding companies expect to say to his board, "I'm going to take an 8 percent to 10 percent return so my clients can get 13 percent to 15 percent?" This is just not going to happen.

Over time, reinsurers do not have a lower cost of capital. They may have different ways to play with capital or to apply capital, but, in general, they have the same shareholders in the same markets as do the insurers, and they need the same types of returns. Reinsurers have to compete for capital like everybody else, and it is not free. The rating agencies are complicating that right now, too. Nearly every reinsurer, with the exception of the Berkshire Hathaway/General-Cologne, has had some form of downgrade, not necessarily because its company is worse off, but because the rating agencies have changed the standard. I could show you charts from ERC demonstrating that our capital position is better in every measurable way than it was three years ago, but we're no longer AAA because the criteria has changed.

The world is changing. What do you expect out of it? Reinsurers are disappearing as a result of big consolidations or just disappearances. Since 1995, at least eight companies that I considered meaningful players in the U.S. life marketplace disappeared through consolidation or withdrawal from the market. We have had one enter and still be active. Roughly half the capacity has disappeared in one way, shape or form.

My prediction is that higher reinsurance prices are likely. Higher prices for reinsurance are not all bad. Better returns for reinsurers and, therefore, implicitly better returns for insurers are probably a good thing for the industry, and this is the only way to attract capital and remain viable.

This industry has two unique features, that is, two competitive advantages. One is a tax-free inside buildup of assets. We have screwed that up with a high cost of distribution, but at least we still have that opportunity to sell it. The second unique advantage is the ability to guarantee that if somebody—a family, a beneficiary or company—needs it, a death benefit—a lump sum with a guaranteed, cash option—then that benefit will be there. One question that I have asked myself for over 20 years is one that I am now asking in public: Why do we continue to give away this one unique advantage so cheaply? Why is the industry not realistic about the returns our shareholders want and the types of risks that we need?

MR. ATKINSON: John, thank you. Your insights, especially with XXX reinsurance, hit close to home to a lot of us here. Change is in the air. I'll be curious to see where we go with the XXX reinsurance situation in the next few years. We have time for questions.

FROM THE FLOOR: This is a question for everybody. The way it's been going lately in the industry with almost everything, the NAIC is taking a harder look at capital and seems to be going in the direction of requiring more capital. The reinsurer is disappearing, as John pointed out, but we see the sales still continuing for term business, where XXX applies. The variable annuities sales are still continuing with the guarantees being attached to them. I'm having difficulty understanding it, as John pointed out, and I'm wondering whether the actuaries are not making the case

to the boards or whether something else is going on.

MR. TILLER: I do not sit on any boards outside the ERC family. At ERC, we are clearly concerned, and profitability is more important than market share or growth. It is hard for me to say what is happening elsewhere, but it appears that as an industry—and as a profession—we may be taking the easy way out, and the primary companies are able to rely upon the pricing of the reinsurers. I doubt this reinsurer support will be there in the future to the same degree. We need to be looking more toward partnerships and asking what the total risk transfers mean. I am trying to challenge the actuaries in general to make sure that we are stating the risk and the issues to our various clients and publics.

MR. PADO: My view is shaped by the reinsurance community. With the increased focus on risk management and increased focus on returns, actuaries will play a large part in proving to their reinsurance boards that the only good agreements are ones that are appropriately priced on a risk-adjusted return basis. I think in the reinsurance world, you're not under the same pressures that you are in the primary world. You're simply under pressure to do prudent business. Reinsurers in general should become more selective as time goes on.

MR. DATOO: I don't have much to add, but I'll tell you that I've exited all the businesses, so I don't write any more business. The answer is simple for you. I don't write any business.

MR. ATKINSON: I'd say also it's a work in progress. A lot of these concerns about pricing don't play out right away. It takes a few years for the experience to unfold, and we have nothing in our accounting to look out 10 years and say, "Do you have the XXX capacity lined up in advance?" That's not something we do today. It's a good question. We don't have a good answer.

FROM THE FLOOR: I think this is more for Mike, but you all hit on it. You mentioned data and getting data from your companies. I've worked with a lot of insurance companies, and it's difficult to get data within an insurance company. The data quality is horrendous, and everyone knows it. I'm curious whether you've thought much about how you'd get this data from the companies. What type of data would you get? I don't mean this to be a wise guy, but do you know what to do with it? Concerning most of the insurance companies I've worked with, once they start to source the data for analytical purposes, they begin to scratch their heads. They have this embarrassment of riches, and they don't know where to start.

MR. PADO: From my perspective, while at AXA Re Life and also prior to at that Swiss Re Life, one of the interests in the variable market, whether it's a variable-annuity or variable-life market, was that these are not only insurance products. They're also investment products. Many of the companies that write those types of products and that are in those businesses tend to have better systems than those

that are not. That's a head start. You also need to be able and willing to put that in your negotiation of the reinsurance agreement.

If you're going to be a risk taker, you should be able to monitor the risk, otherwise you should never agree to enter into that particular agreement. I have seen and have been involved in arbitrations as arbitrator in situations in which I think part of the problem was that the emerging experience was not apparent to all parties that were involved in transactions. They precluded themselves from ever reaching that level of understanding. It's important. From the variable market you have a better chance of getting the data.

I mentioned earlier about being a policyholder in a variable-annuity contract, and what I learned was that as a policyholder I can go onto the Internet every night and find out all my contract values. The reason I did that is I found out more as a policyholder about performance on the agreement I was reinsuring than I did as a reinsurer. I found it out instantaneously, and I can find it out every evening. There's no technological difficulty in working toward that point. It's possible, but everybody has to be ready, willing and able to adopt a process to do so.

FROM THE FLOOR: I work for Swiss Re, and this is not a ringer of a question, Fazli, but it's for you. We've got stochastic tools to deal with equity market risk. There's a question perhaps in how it's applied, and we could use those same tools to come up with another RBC formula not only for GMDB, but for the mortality risks, as well. As I was sitting here, I couldn't think of any way of quantifying a risk capital calculation for the business risks you were talking about, and I was wondering whether you'd thought of a solution or of the same issues.

MR. DATOO: I think we have the same issues here. Frankly, we do not know quite often what it is that we have reinsured. To be honest with you, concerning the data question that was raised before, data are so scanty in the reinsurance organizations that we don't have any complete information available to us. Applying stochastic models or any kind of models for that matter would be constructing a fantastic building with no foundation whatsoever. It won't stay together.

The other difficulty you find in this A&H business, particularly with the litigation and arbitrations that are going on, is that those risks that you talk about today in terms of morbidity and mortality are miniscule compared to the legal risks we are taking in this business. I would prefer that we sit down and negotiate some of those things than go through the process of arbitration and litigation.

Besides that, in the workers' compensation area, for example, we are so far removed from the ceding company because there are a number of people in between. I have absolutely no idea what goes on in those companies at this point in time, yet you have to come up with some numbers that are reasonable, and you do that by experiences and by doing some actuarial studies. People do actuarial studies for us all the time. The property casualty actuaries do studies for us, and

what they do is use four methods to come up with an answer to ultimate liability, for example, and since they don't know what the answer is, they'll throw up their hands and take the average of the four.

That's the result we get, and that's not satisfactory at all because the dispute risk is significantly higher than even the claim risk in this particular situation. I don't have an answer to the modelings that you mentioned. It doesn't apply well to us. We don't use models. If you have scanty data, if you're a heterogeneous business, we don't have a homogeneous business, it's difficult to do.

FROM THE FLOOR: But you are suggesting a C-6 legal risk. Is that correct?

MR. ATKINSON: We have time for a couple more questions.

MR. TILLER: I would like to comment on the last two questions. In terms of data, I believe that it is both the data and the modeling that need to be addressed. We have to look at this as two blocks of business. First, there is the older in-force business for which we may never get all the data we want. But, going forward, our company will do business with only those clients that meet certain criteria around their administrative capabilities and have the ability and the commitment to provide us accurate data on a timely basis. We have the ability to analyze mortality, persistency and A&H claim data quickly once we get it. We just cannot afford to do business with companies that do not provide the data. We have to be selective and insistent about that, and I suspect that the industry will move in that direction fairly soon.

MR. ATKINSON: Next question?

FROM THE FLOOR: I liked Fazli's point on one of the lessons learned being economic alignment and the need to make sure that the cedant company has the same risk and motivations and is rewarded when the reinsurer is. I'd be interested in all three panelists' thoughts on whether there are any minimum retentions, or especially in the individual life XXX reinsurance that we're talking about, what we ought to be thinking about to make sure that there is proper alignment between how the cedant is going to be rewarded and the reinsurer.

MR. PADO: I'll approach this again from a variable-annuity reinsurance point of view. My experience is that as the reinsurance market for these types of covers was evolving and emerging, many cedants wanted to lay off the entire risk to the reinsurer. In my mind, if you're ever in that position in which they have the pen and you have the risk, it's not a good thing. They do need to maintain some portion of the risk.

In that particular world, a lot of it was nonproportional. There's no exact notion of a minimum retention. There could be knock-ins and knock-outs and certain quota shares and different combinations, but generally as the reinsurer you need to take

a step back and feel whether on balance it's a good relationship to have. In that world I'd say there's no minimum, per se, but it's greater than zero.

MR. DATOO: Yes. In the business we have, there are a lot of nonproportional reinsurance opportunities. Misalignment of economic risk is a big negative, and what ends up happening is that you initially do audit work or due diligence work with the insurer or through a third party, which is another danger point, as I explained before. If you were able to go to the insurer directly, you'd still have to do lot of audit work subsequently because you can't rest on your laurels in this situation. What I have seen is, and this is after the fact, that an insurer gives you a certain percent of the risk and then decides to back-door the rest of the thing to somebody else, and that doesn't give you too much comfort. Therefore, auditing procedures are critical to success or lack thereof.

We, as an industry, have not paid too much attention to those things because when they money is coming in, it's okay. It doesn't feel like things are going wrong. When the deficit begins to emerge, we take notice, and it's too late because the horse has left the barn. In this situation the data come so much later than what you'd like to see. By the time you get the data, the game is over. It's difficult. Going there and talking about it up front and making sure that everything is the way you want it makes a lot of sense to me.

MR. TILLER: With respect to the individual life, I do not want to say anything here that would be considered antitrust, but I think that the risks retained by the ceding companies need to be enough to hurt. It needs to be enough that they feel the pain if they mismanage it, and that is on both an individual claim basis and overall. I think 10 percent is too low. I like 50 percent, but somewhere in between might be appropriate. It depends on the client and on the transaction. Another piece of it is if a company normally has a $5 million retention, but then keeps 50 percent of the first half a million and gives off the rest of it (a $250,000 maximum risk), that is not playing right, either. I want it to be the same percentage all the way up until it fills its full retention.

MR. ATKINSON: There's time for one last question, and we'll close it down.

FROM THE FLOOR: Actuaries are often accused of looking out the rear window, and I'd like to know where the next disasters are going to come from.

MR. ATKINSON: I would hazard a guess on XXX.