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Financial Risks—Lessons Learned From Other Jurisdictions

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Summary: For many years, insurance companies worldwide have sold products with long-term guarantees. Some guarantees have resulted from regulatory requirements and some are simply tradition. Today, interest rates and stock markets in North America have dropped considerably. Similar conditions have also been experienced elsewhere. This disparity has created substantial exposure to financial risk. Attendees learn what changes in product design and risk management have taken place in other countries to address such financial risk.

MR. WILSON: Our speakers today are myself, Hubert Mueller and Steve Schreiber. Hubert is a principal at Tillinghast-Towers Perrin. He's the leader of the firm's financial management practice for the Americas, which is located in Hartford. His area of expertise includes assisting companies with mergers and acquisitions (M&A), actuarial evaluations, design, implementation and review of asset/liability management (ALM) and risk management strategies. He joined Tillinghast in the New York office in 1986 and has worked there ever since. He's a member of the German Actuarial Association and does considerable consulting in Europe.

Steve Schreiber is in the New York office at Milliman Worldwide. He co-manages the life-health practice. He joined Milliman in 1986 and spent three years in Milliman's Tokyo office from 1995 to 1998. So, he's clearly qualified to discuss the events that have transpired in the insurance industry in Japan. Upon returning from Japan, Steve managed several demutualization projects and has been active in securitizations and M&A work. He's also remained active in consulting in Japan just

to keep up with the world over there. Our first speaker will be Hubert.

MR. MUELLER: I'll talk about Europe. As Bob said, Steve will talk about Asia and then Bob is going to cross the bridge and bring it all back to North America.

There are three topics that I want to discuss. The first one is just a broad perspective on what the European market issues are. Then I'm going to look at two markets in particular, the UK and Germany. I will probably be a bit more focused on Germany because I spent most of the '90s there and have a little bit more experience there than I have in the UK, but I'll try not to make it too biased of a view.

European Market Issues

First of all, for those of you who may not be that familiar with the European marketplace, it's characterized by many different regulatory regimes and market practices. When I say Europe, I really mean the continent plus the UK. Some markets have market value accounting, like the UK and Sweden. Most of the markets have book value accounting, much closer to what we currently have in the United States on a statutory basis. The definition of surplus varies by market, as do shareholders' rights and their typical profit sharing mechanisms. The risks also vary significantly by market. One thing that's different from the United States is that risk-based capital (RBC) is typically based on minimum solvency formulas, which are purely driven by liabilities. So whether a company has the local market Treasury bills or they invest in junk bonds or equities doesn't have any implications for their solvency capital, at least not yet. It will have implications going forward, as we will see, but right now the capital formula does not take that into account.

The Third Life Directive, which was introduced in 1994, is based on mutual recognition, not harmonization. What that means is that a company can do business in any one of these markets, have a domicile there and, via a cross-border license, be authorized to sell into any of the other European markets. In practice, a lot of companies picked an easy market to go into and then via cross-border licenses sold into all other markets, such as Germany and others that have much tougher regulations.

There are a couple of other differences in the various markets, such as the level of investment in equities. It's highest in the UK and Sweden, and it's lowest in a couple of markets such as Switzerland, Austria and maybe even Germany, although they've changed, as we will see. A lot of the markets have guaranteed surrender values similar to what we know. Pension reforms are at various stages. Typically the markets have a much older population than we do. There is a much smaller influx of immigrants, and to the extent that they do have immigrants, it's usually older retirees from Eastern Europe since the iron curtain has come down. So we don't have the same population structure. I know, for example, that Italy has the dubious celebrity to have the oldest age pyramid in the world, even worse than Japan, and Germany is not far behind. The tax systems are different and the social

security systems are different. So, the only thing that's harmonized is the freedom to sell insurance, but you still have to comply with the local tax requirements for your insurance product in each of these markets.

Now, the financial fallout has probably been even more pronounced in Europe than here. In the UK the regulatory structure is being completely overhauled and this is really a first for them in a very, very long time. Because of their heavy equity exposure for with-profit products, and the issues with mortality and payout annuities and the lower interest rate environment, they have had significant fallout in the industry, including the largest, or at least the oldest, mutual in the world, the Equitable Life Insurance Society. That company was actually founded in 1762. So, a company that was 240 years old went belly up in 2000.

In continental Europe, companies were using equities to back book-value liabilities, especially in markets like Switzerland and Germany. That was great while the market was going up, but nobody was thinking of what would happen if the market went down. They probably would have done okay if one bad year like 2000 happened, but three bad years have really put a lot of companies at the brink of insolvency. The lower equity markets have affected revenues, and consumers actually are shifting back their preferences and priorities to products with guarantees. During most of the 1990s, unit linked business took huge increases in market share, and was probably up to about 50 percent by the end of the decade. But that was only because the equity markets were going well. Everywhere in Europe the equity markets had double-digit returns. Once that changed, all of a sudden guarantees became much more important and some companies even exited-unit linked, or what we would call variable, insurance business.

United Kingdom

Let's look at the UK in a little bit more detail. I think the UK market is probably an example of everything that can go wrong with an industry. Some people have dubbed it the perfect storm, after the movie with which you're all familiar. Some companies certainly have been hit more than others, but I think virtually none have escaped what has happened in the industry. It really has developed over the last 10 to 20 years in various stages. The first 10 or so looked pretty good until about the early to mid '90s and then things started to change. As background, you need to know that up until about 1983, premiums paid for insurance contracts in the UK were generally deductible from income tax for individuals, and the proceeds were not taxable upon receipt. So they had tax advantages that we've never seen in this market. As a result, the industry had focused on tax-preferred savings vehicles and was looking at providing tax-sheltered vehicles for retirement. Even mortgages tended to be repaid by purchasing endowment contracts, paying interest in the interim and then using the proceeds from the endowment, which are tax free, to pay off the mortgage upon retirement. That was a typical product in the UK. That was also the common product in most of Europe until about the mid '90s.

As time went on, though, the regulators' view of the insurance companies'

responsibilities to policyholders changed in that they felt that the insurance company had much more of a duty to provide best advice, and if they failed to do so, that was an offense. So just like we've seen market conduct problems, they have had their share of misselling. As companies were violating certain rules of not following best advice, huge problems developed and significant pension misselling and life insurance misselling heavily damaged the reputation of the industry. At the same time, interest rates fell, mortality improved and a lot of companies that had sold products with payout annuity options, based on high interest rate guarantees were forced to hold much higher reserves, as people were starting to take those payouts. That's one of the reasons why Equitable Life actually failed. In fact, the collapse of the Equitable Insurance Society was quite interesting in that it could have been avoided. The regulators in the UK were giving them an out, saying if you have problems you have to let us know. They kept saying they were fine, but then they wanted to change the terms of the contract unilaterally and rebuffed the government actuary's advice. They said they had the right to change the contract terms and ultimately that led to their failure because the government regulator stepped in and said they could not do that. So they immediately put themselves up for sale. I think the industry and the regulators are still reeling from that loss of credibility.

The continued market downturn exacerbated that situation because the UK industry has always been heavily exposed to equities. Certainly from an M&A perspective it's probably one of the cheaper times to invest in a UK company, if anybody has the heart to do that. The with-profit product is under severe pressure and is losing further market share, and I think there is a hole in meeting consumer's current financial and retirement needs.

Now, what are some of the implications that we can draw from this? First of all, regulatory and consumer pressures are forcing the margins down with a trend toward more commoditized products. For example, the new stakeholder pension product that they've come out with, which is really more of a private employee retirement product, has very, very thin margins compared to what they used to have; and it may provide some opportunities for companies that are experienced in markets with lower margins. The smaller players seem to be falling by the wayside as they may fail to cope with margin, regulatory and distribution pressure and be faced with close-down decisions. The UK industry is moving to an economic capital environment, because by 2004 companies will have to do stochastic modeling of their entire business within certain prescribed requirements, and that will determine how much capital they're going to be asked to hold. It's moving from the strict solvency view to much more of an economic capital view. That's going to be effective by next year.

Germany

Let's look at Germany This is a very interesting market and a lot of lessons can be learned. Steve's going to talk about Japan later and I'll just point out that the Japanese copied the German insurance and social security system in the late

1870s, so a lot of things that you see happen in Japan would certainly happen the same way in Germany, if Germany had the interest and equity-rate environment of Japan. Maybe they would even happen over here. Bob can debate that one.

Chart 1 shows what happened during most of the 1990s. Companies held their crediting rates and their investment returns fairly stable by realizing ever more of the equity gains that were developing. As interest rates were going down (see the government bond yield curve) they were making up the fixed margin shortfall by realizing more capital gains from the equities and basically retaining all the gains that had developed in the second half of the 1990s. So through about 2000, companies by and large were posting 7 or 7.5 percent net investment returns, which was a combination of 3 to 4 percent on interest and an extra 4 percent of realized capital gains on equities. How did they do that? Well, they significantly increased the proportion that they were holding in equities.

Chart 2 shows this on a book value basis. In 1990 the equity portfolio was about 10 percent of book value. By 2000, that had grown on a book value basis to 25 percent. This is not counting unit linked business. It is just counting traditional with-profit business. So 25 percent of the assets backing book value liabilities with guarantees of 3.5 to 4 percent were invested in equities at that time, and that's huge.

Everything went well until about 2000. If you look at the exposure to equities in Chart 3, we did a calculation using the factors underlying the United States RBC. We calculated that over a 15-year period, if you applied RBC factors to the German assets, it would actually have tripled the RBC requirement. In 1985, the ratio of what companies were holding in capital was probably about 5 percent, so that was more than adequate. By 2000 there was still only about 5 percent, so all of a sudden it's not adequate any more.

However, as I've already pointed out, the European solvency regulation, at least at the present time, does not take into account the riskiness of the asset portfolio at all.

Chart 4 projects the story to 2002. Companies were using capital and surplus, plus a portion of the bonus reserve called the unallocated bonus reserve, to back their capital requirements. They were also realizing capital gains. Up until a few years ago, the balance of these two was more than enough to satisfy the risk-based capital, even if you used U.S.-type requirements. By 2002, that was not the case any more. On an industry basis, the life industry has managed in three years to use up all the capital gains that they had built up in three decades. So they're down to market value roughly being equal to the book value of assets. There are no more unrealized capital gains left, and that includes real estate where they had huge profits, and most of the higher yielding bonds. So on a total market value basis, right now it's roughly equal to the book values. What they have left is really capital and surplus and some part of the free bonus reserve, and that's not enough to fulfill

solvency requirements. So on an overall industry basis, they're pretty much at the brink of insolvency.

You may ask how they got into this. I worked there most of the '90s, and it was just incredible to me. I would tell them to look at what happened in the United States in the late 1980s, or early 1990s. Everybody was doing the same thing, investing in junk bonds, which went sour. However, the Germans said everybody's doing it, so they can't be wrong, or they said they've never had an insolvency, so that's a pure retrospective look. Well, what happened is kind of ironic, but now the consumer press in Germany is full of "big is beautiful."

Now everybody's buying Allianz policies, just because they're big and they're seen as surviving the current market shakedown. So it has actually led to the larger companies getting much more market share in new business and the smaller ones falling by the wayside. In fact, the German Association of Insurance Companies founded a guarantee fund called Protektor, where companies have to pay in based on their premium size. So the irony is that now the large companies have to bail out the small companies for the stuff they did in the 1990s, which forced them to cut off their business.

It's ironic, but probably for the industry overall, it provides less damage than if they had just let them all go by the wayside. So there is a guarantee fund, and they're starting to take in portfolios from companies that are basically on the brink of insolvency. The policyholder credited rates, which have been up in the 6 to 7 percent range until about two years ago, are now down much closer to the guaranteed level. The current minimum guaranteed level is 3.25 percent on new business today whether life or annuities, and it was 4 percent until 2000.

However, when the regulators changed the minimum guaranteed level, it only applied to new business going forward. Most of the life insurance business being sold, though, is annual premium business. Most of the terms being sold are 20- to 30-year terms. So somebody selling a 30-year endowment policy in the middle of 2000 at a 4 percent guarantee means they're going to get about 28 more annual premiums that they have to pay a 4 percent guarantee on. So the lower minimum guaranteed interest rate really only provides relief on new business.

If you look at the situation for traditional with-profit business, and what we can take away, the shareholders typically take a 10 percent share in the technical surplus, which is one of the regulatory requirements. Technical surplus is defined as the realized regulatory investment return less guaranteed investment income. Expense and lapse profits or losses are not included in technical surplus for new business, only for the old in force. The risk-free rate, or the government treasury rate, whatever you want to use as an equivalent, has been in the range of 4 percent. It's about a half percent to a percent higher than we have in the United States right now. So it's still above the guarantees, but just barely. In fact, most in-force business is still at a 4 percent guarantee. We have 3.25 percent guarantees

now on new business, and the insurance authorities are now discussing whether they want to lower it to 2.75 percent for next year. But again, it would only be for new business. That's a huge mismatching risk.

Chart 5 shows a typical example of an option with a 90:10 surplus participation. If the investment return for the company is above the interest rate guarantee, the shareholders share in the margin. The higher it is, the higher the shareholder share because the shareholder gets 10 percent of the excess return above the guarantee. So in a way it's like a put option. You get 10 percent of this, but if you're below, the shareholder pays 100 percent of the shortfall. When we were initially talking with the UK companies, they could never comprehend that because in the UK it's always 90:10. For every $90 of bonus that goes to the policyholder, the shareholder gets $10. In Germany it's more like 95:5 or 96:4, but that's when things go well. When things don't go well it's zero to 100 because the shareholders are paying.

You may think this is pretty farfetched, but I think that if you look at fixed annuity business in the United States, I would claim that the situation is very similar. Companies are investing essentially in A or BBB type bonds because they get a higher spread. The bet is that the higher spread is much more than the default rate assumption that you're pricing and that higher spread becomes your profit margin. You're basically paying something that is pretty close to a risk-free rate to the consumer, so the consumer can't lose. The consumer gets a risk-free rate, while the return is above or beyond. If the rate is below, the company bears 100 percent of the loss, as we have seen the last three years. If the rate is above, it just means that your pricing assumption has materialized. So, it's not that far from the German situation.

We've done some stochastic testing on this underlying problem, and Chart 6 shows that the higher the volatility that you assume for your interest rate returns, the more negative the return gets to the shareholder. The only time the shareholder has a positive return is if there's no volatility. So it's a win-win situation for the policyholder because he gets the guarantee and he gets the upside potential, but he doesn't pay for the downside.

For the in force business, companies are gradually coming to their senses because they have to. They have their backs against the wall, so they look at how much investment income they generate, what their guarantee is and if there is anything left to be paid to the policyholder. Previously it was always like the policyholder credited rate was a fixed number and everything else was solved around it. In fact, in the early '90s, most companies thought it was not appropriate to make money from selling insurance. That has changed!

For new business you can do a similar thing. Again, the shareholder share is 10 percent of the gross investment return, so companies are moving the credited rate down to 3.25 percent. Right now the risk-free rate is still 4 to 4.50 percent, so they're investing everything in things like community bonds or government bonds

and taking a very small margin, but they're not taking a lot of risk any more, because they've gotten burned.

As a consequence of this whole thing, the German life insurance companies have reduced their equity investments substantially. Interestingly enough, the supervisory authority actually forced companies to lower their equity shares to below 10 percent in September 2002, which was about the worst time you could have done it. If you look back at the market over the last 15 months, that was about the low point. Companies had no choice. There was a fax that came on Sept. 22 that said by the end of September the equity proportion had to be below X, whether they liked it or not. That is a great example of very insightful government intervention.

Policyholder crediting rates have become much more reasonable and companies are down at the guaranteed rate level now. They added a stress test for the whole market at the end of 2002 to test solvency, and what they basically said was in the appointed actuary's report, (which is similar to what we do in the United States), companies had to test for one year ahead on the assumption that equities would go down 35 percent and interest rates would jump up by 2 percent. When they developed these rates in the middle of 2002, the market hadn't gone down that much. By the time the rates became effective toward the end of the year, the stock market was down about 35 percent for the year already. So at the last minute they let companies include this year's performance in the 35 percent. So the test really was for no change in equities and a 2 percent increase in interest rates at the end of 2002. Even so, at least one very large company failed the test, and a bunch of medium and smaller companies failed as well. So the supervisory authority is now looking to lower the guaranteed rate to 2.75 percent.

Another of the implications for the market is embedded value, which is quite often used by the medium and large companies. There is much more of a need for recognition of options and guarantees. They realize that there's a significant put option that they're selling, in most cases for free, on the shareholder share of the with-profit product. There's stochastic testing now being done, and also equity investments backing book value guarantees have been cut back from where they were a few years ago. Capital pressures are huge. I don't think the industry is going to recover from these last three years unless the market makes very big recoveries the next two years. Even a flat or moderately increasing stock market will not bail a lot of companies out of their current predicament. So all of a sudden, a market that previously was pretty much shut in terms of getting in or buying a company, from a merger or acquisition perspective, has become open. Companies are on the market now that you would have never thought would be on the market two to three years ago. Capital pressures will be there. M&A is starting to happen and we do see more market consolidation. I think the whole issue of fair value accounting is as heavily discussed in Germany as it is over here. In fact, it was the U.S., the Japanese and the German insurance associations that wrote that letter to the International Accounting Standards Board (IASB) bitterly complaining about the

proposed fair value rules.

MR. SCHREIBER: I'm going to be talking about Japan. You just heard about the difficulty the European insurers are facing. One of the business newspapers in Japan that is equivalent to the *Wall Street Journal* had a quote in early March that basically said that the plight of the Japanese insurers is far worse than the problems faced by their European counterparts. You heard how rough it is in Germany, and Germany today seems to me like Japan probably was five or six years ago. I don't know if that is going to tell us where Germany may end up in a couple of years, but it clearly is a difficult environment in Japan.

As you may be aware, the problems in Japan have been going on for a long time. An Oct. 1998 newspaper article that talked about the financial services industry, the banks and the insurers, said meltdown was feared if quick, strong action was not taken. That was about five years ago. Clearly we've not seen quick or strong action. Some will question whether there has been a meltdown. Today we hear a lot of discussion about possible meltdown in the banks and possibly with the insurers. Back in 1998, the Nikkei had just hit a 12-year low. In April of this year it hit a 20-year low. Ten-year government bonds back in 1998 were just under 1 percent and right now are sitting at about .05 percent. We had a significant bad loan problem in Japan in 1998, and it's only gotten worse. An article back then said banks have severe problems. I don't think we really knew what severe was back in 1998 compared to what we're seeing today.

I want to talk about where the industry is today, how it got there and how the companies have responded. There's been a lot of discussion about the zero interest rate environment in Japan. You have to go out about 30 years on the yield curve of Japanese government bonds before you cross 1 percent. At many shorter durations yields are only a few basis points, so there's really no yield on government assets these days.

We're seeing a continued decline in equity prices. Again, back in 1998, the Nikkei had hit a 12-year low of around 15,000. Right now the Nikkei is around 8,100 after hitting a 20-year low of 7,600 in April. We are also seeing a continued increase in defaults. There just doesn't seem to be an end in sight. In this environment where consumers have a huge tendency for savings to begin with, together with the prospect that things may be cheaper next month, it creates a very difficult environment and consumers basically are not spending. They're holding on to their money and they're waiting to see what happens next month.

Negative interest spread is another issue. I think people have heard a lot about that. In fiscal 2001 it was about $13 billion, which was about 90 basis points on total liabilities. The group pension funds get repriced every year. You can reset the guarantee. So if you take that out and just look at the negative spread on individual liabilities, you're about at 140 basis points or so, which is pretty incredible. In 1998 only one insurance company had failed. Today we've got seven insurance company

failures and the industry has had to pay over $700 billion yen to help support that cleanup. It's a big issue for the newer companies, such as the foreign entrants who have come in, and they're concerned about having to pay for problems that were created long before they were even in the marketplace.

Chart 7 shows the failures and it shows the amount of assets for these companies as of March 1995. What we see is that companies with assets supporting about 14 or 15 percent of the industry's liabilities have failed, which I find that pretty incredible, and unfortunately I don't know if we're necessarily done.

How did we get here? In the post-war environment, the industry evolved as a mutual industry. As Hubert said, it was modeled on the German system. Virtually all reported earnings were returned to policyholders as participating dividends. The pricing was essentially fixed. Everybody pretty much charged the same price. There was little flexibility in setting or changing the prices. By the late 1980s, at the peak of the bubble where the Nikkei was up at around 38,000, companies had huge hidden gains in their balance sheets. They were holding their equities on a book value basis and so they felt very comfortable. They had this huge cushion on the asset side and the reserves were held on a net level reserve basis using what then was viewed as conservative assumptions. If you looked at the balance sheets, you wouldn't have seen any real surplus reported, but it was all hidden in the balance sheet.

What caused the problems? I think it was the combination of U.S.-style policy guarantees with a UK asset style. Hubert talked about the high percentage of equities on the UK products, but again they didn't have minimum guarantees in the UK. In Japan, minimum cash values with a 5 or 6 percent guarantee were backed by a fair amount of equities. At the end of fiscal 1990, right after the peak of the bubble, over 20 percent of the assets were invested in equities and these equities were backing fixed-rate guarantees. It seems crazy by today's standards, with all of the asset/liability management (ALM) technology we have and the stuff we've learned over the past 10 or 15 years that people would be doing that, but you heard what recently went on in Germany. We're clearly not learning from our mistakes.

I'm going to give a little bit of the history here. In the post-war environment, the life insurance industry in Japan promoted a return to normalcy. It created huge employment opportunities for women, and the industry was a means of savings and capital formation. If a business needed money to run their business, they didn't issue debt, there was no debt market. They would go to the banks or the insurers to borrow funds. Through the 1970s and '80s there was exceptional growth for the industry. Mortality continually improved, investment results were good, and again the hidden gains provided what was viewed as a huge cushion against possible downturn. We also had the gross domestic product (GDP) growing consistently at about 6 or 7 percent a year, aside from the oil shock in the early 1970s. So by the mid 1980s, everybody had a lot of cash and the insurers were very happy to absorb

it. Single premium sales were skyrocketing and the industry was becoming much more aggressive in what they were offering to try to attract all that cash.

Chart 8 shows the growth in single premium sales, and you can see it's peaking right around the time that the Nikkei was peaking. So as the market was riding up, single premium sales were growing and these were not variable products that were being sold. These were single premium products with guarantees in the range of 5 or 6 percent that companies were backing with equities. So clearly when the Nikkei bubble burst and equity prices dropped, the slow bleed began for these seven companies that have ultimately failed.

Aside from the bursting bubble, clearly the declining interest rates and the growing interest gap, the increase in problem loans, declining sales and a very inefficient expense structure, with very high fixed expenses, had an effect. The companies really did not respond or react to adjust for that as their sales were declining. So they had, and some of them still have, fairly significant expense problems. What we did see in the 1990s, though, was the opening of the market to new foreign competitors. Prior to that it was very difficult for a foreign company to get in. A few companies were in, but it really was a closed market in which you really couldn't control your own pricing. So aside from the new foreign competitors, we also saw the introduction of quite a bit of new product design.

So how did the companies respond? Well, seven of them have failed and a few more are barely hanging on, but we've seen significant changes. The new market entrants have brought financial discipline to the marketplace. We see the expansion into new distribution channels and we've seen the introduction of new products.

On the financial discipline side, basic concepts like profit testing your business have been introduced. It really didn't exist before. Everybody was interested in top line growth. The view about profitability was that since pricing was so conservative and since companies were going to return all of their profits to policyholders anyway, they really didn't care how profitable the business was. So companies were not doing basic pricing.

Then foreign companies arrived. Foreign management is not just throwing capital here and saying go and do what you want. Companies are pricing their products, and a lot of the western approaches are being introduced by the domestic Japanese companies also. We've seen the introduction of risk-based capital measures. It's a similar structure to the U.S. RBC with a similar formula. For the domestic companies the difference has become clear to them between holding an equity asset or holding a government bond asset in terms of how much capital you need to have. The foreign companies have brought in the whole concept of asset-liability management techniques.

The traditional distribution channel was a part-time saleswoman channel, and that's not disappearing. It's still predominant, but companies have made significant

progress with other channels. Sony and Prudential U.S., which originally had a joint venture and then subsequently split, introduced the professional planner channel to Japan. AIG and ING focus on agency distribution, selling through tax accountants. Hartford, a recent entrant to the market, has been distributing variable annuities through stockbrokers, and as of Oct. 1, 2002, through banks. In addition, even though the traditional companies are still dependent on the saleswoman structure, they have really worked to pare it down. They've tried to get rid of the saleswomen that just weren't doing anything and tried to increase productivity. In the early 1990s, the 20 original domestic companies had 450,000 saleswomen. That was reduced to 375,000 by 1996 and then five years later, in 2001, it was down to 285,000.

In response to the difficult environment, we've also seen a movement away from savings products toward risk-oriented products. Some of this has been driven by consumer need, but mostly it has been driven by the huge margins that are available in Japan on these products. Nobody has been anxious to start cutting prices on the term products or on the accident and health (A&H) riders, as these products have been generating significant profits.

In the early 1990s, we saw the introduction of dread disease, terminal illness products and long-term disability insurance (DI). In the mid '90s, we saw a product called semi-par whole life. This product is participating on interest, but it only pays an interest dividend every five years. It's nonparticipating on mortality or expense, so the companies are keeping the mortality gains on those products. In the late 1990s, preferred-risk and nonsmoker discounts finally made it to Japan and variable annuities were introduced. Throughout this period, we saw a shift to a packaged product that would have a small whole life base, but significant levels of term riders, maybe 20 or 30 times the face amount , and they would load it up with A&H riders. That really has been key for the industry to help offset a fair amount of that negative spread on their existing business.

There are some basic lessons learned that I want to go over. It is important to back liability guarantees with the appropriate assets. It is important to tie pricing to true risk management. Finally, diversification is important. In the late 1980s, everybody was basically selling the same exact thing, and it was a huge concentration risk. It's still an issue that you see today. Where you see problems you can often find them being related to diversification. Allmerica basically sold about 95 percent of their business over the past couple of years on one product, a variable annuity with fairly healthy guarantees. When that market turned against them, they didn't have anything else to fall back on. So that's what's happening in Japan today.

MR. WILSON: I'm now going to discuss what may be some of the implications of what we see in Japan and Europe for North America. To some degree a lot of this is speculation. We're trying to see what we can learn from what has happened.

There are a number of items that we need to look at, such as what's similar

between these various countries and what's different. There are a number of similarities. We've all suffered from government-mandated guarantees. They existed in Japan, they existed in Europe and they exist here today. Most of these guarantees are ostensibly to protect policyholders. Unfortunately, as is usual for regulators and regulations, once in place they're difficult to change.

I'll give you an example. In 1992, Canada changed the Insurance Companies Act. The previous time that Act had been changed was 1917. So it had been around for a while, and in Japan they're probably still using the original 1876 German regulations.

In addition, as an industry, we become so inured to these requirements that we do not consider them as options, and we fail to take them into account when pricing. An example for North America would be cash values. I don't know how many actuarial students have told me that's not an option and FAS 133 declares it not to be an option, but last time I looked, Wall Street says it's a put option. A 4 percent interest rate floor is an interest rate floor, but under FAS 133 it's not an option. You talk to an actuarial student doing your pricing and there's not going to be cost.

Another similarity is desire for growth. Have you ever heard of a company that says it doesn't want to grow? If you listen to a chief financial officer (CFO), we're going to grow. We had a big sign in our U.S. office and that reduced the entire regional motto for our U.S. operation to the acronym GBF, or grow big fast.

When you want to do something that's risk management and it sort of disagrees with grow big fast, your marketing guy points to the wall and says GBF, grow big fast. Scale is the only thing that matters. In both Europe and North America the power lies with the distribution system, not with the companies. The people who get rich are the distributors. In the endowments in the UK and in Europe that were tax preferenced, almost all of the tax preference advantage was given to the field force. The policyholder didn't see much of it.

In the UK, the competition under mortgage repayments was a bunch of things like savings and loans, but they're called building societies in the UK. You would think if you've got the ability to have a tax deduction for the premium and no tax on the gain at the end on the endowment, it would give you leverage. You could blow the doors off of the competition. All except for maybe 25 basis points ended up being given in commission. I saw companies in the UK with first year commissions of 60 percent on a 10-year endowment, but they could outperform the building societies because of the tax advantage. Then the tax advantage got taken away.

So when you want to grow big, true power lies in the distribution force. This is not conducive to risk management, and we see that today in the United States. Options and features that may appeal to distributors may be included without sufficient consideration to long-term risk when the alternative appears to be a drop in top line growth.

Another similarity is that most of the sales in the last umpteen years in North America, at least on the savings side, have been tax driven. Tax deferral is the big advantage to both fixed and variable annuities. That's not a permanent competitive advantage. The tax rules change.

Now I am going to talk about the differences. We have two types of differences, good differences and bad differences. First I'll discuss the good differences. North American companies do not use as much stock in their fixed products. On the other hand, if you invest in BB bonds you effectively have an equity exposure. Capital markets are deeper and more liquid. The U.S. bond market dwarfs the European bond markets of all of the European countries put together. Just try buying a bunch of swaptions and options in the UK compared to doing it in New York. So it makes it easier to take care of things. North America also has better ALM practices as a rule.

The other real advantage that we have is that it happened to them first. Maybe we can take advantage of seeing what happened in Europe and Japan and not follow all the mistakes that were made.

Of course, there are also bad differences. First off is the belief that it can't happen here. As required under Canadian regulations, we run a dynamic capital adequacy test (DCAT) every year that we give to the board of directors. When I took over as appointed actuary of the company, I started running a scenario called the Japan scenario. The first year we did this was probably in 1999, and it called for the stock market to drop 50 percent and interest rates go down to 2 percent over a five-year period. The reaction was negative with people not wanting to run this scenario or waste resources on doing this scenario, because they thought it wouldn't teach us anything and it can't happen here. Well, it happened in Japan. The belief that it can't happen to us is the most dangerous belief that we can possibly have.

Another one is the use of U.S. GAAP versus embedded value. U.S. GAAP hides what's happening in reality and can be easily manipulated. it.

Another difference that falls on the bad side is that we have products that the regulations in other territories wouldn't allow. In Canada and the United States we have something called guaranteed minimum accumulation benefits (GMAB) on segregated funds or unit linked contracts. The reserving and capital requirements in the European union wouldn't allow you to actually sell those products. There's nothing illegal about selling them, but the reserving requirements would be so onerous that you'd never sell one.

Another disadvantage is that we have a litigious society. The definition of a policyholder's reasonable expectation or what is fair and what is not fair change. In the U.S. we have lawsuits now on race-based pricing on products that were sold in the 1800s. So you never know what's going to come back to bite you 20 years hence.

Pricing is not market-based. Pricing is not consistent with Wall Street pricing, which makes it really difficult to hedge stuff. Effectively, we as an industry sell options on the retail market at prices below what they cost on the wholesale market. Can you imagine going to a grocery store that sells milk for 20 cents a gallon less than what it has to pay its suppliers? You don't make money doing that, but we do it all the time. I remember we tried to hedge our guaranteed minimum death benefits (GMDB) riders and one of our actuaries goes up to Wall Street and comes back and says those Wall Street boys don't know what they're talking about. We say it costs 15 cents, but they say they want 55 cents to hedge it for us. Wall Street has been doing this for 60 years, so who is it that doesn't know what they're talking about?

The industry also has seemingly forgotten that insurance is fundamentally risk sharing, not an assumption of risk. Actuaries are not risk takers, we're bookies. We're supposed to be laying the business off, using the law of large numbers and all that good stuff. The best actuary around was Jimmy the Greek. Pricing of nondiversifiable risk must demand a different approach than pricing of diversifiable risk such as mortality or health claims. Getting more and more GMDB increases the risk. Getting more life insurance decreases the risk.

Another difference that's not good is dependence on low-quality bonds to support guarantees. I've been in this industry for a long time and I remember companies that felt that you could go on forever investing in BBB bonds and giving all of the spread to the policyholder and keeping none for yourself. Under normal periods that actually can work, but when you get into abnormal environments, the default rates on BBBs balloon much more than they do on AAs.

Another problem, while ALM is a strength in North America, on fixed annuities, ALM generally covers only the first interest rate period. So if I've done ALM on a product that has five years to go or a five-year guaranteed investment contract (GIC)-type product. I think I've done a really good job if my ALM treats the five years. But if I've got a 3 or 4 percent guarantee on what happens after the five years, that isn't treated generally in the ALM. In some companies it actually might be.

Fundamentally, the relative lack of attention to the potential problem of low rates and low stock prices is rooted in the belief system of most product actuaries and managers. Headlines trumpet that the 30-year Treasury is at a record low. Of course, they failed to mention that there were no 30-year Treasuries until the mid 1970s. We are all prisoners of our own experience. Pricing actuaries tend to be around 27 or 28 years old. Many have just finished their exams and their experience as semi-adults goes back to when they were 18 or 19 and coming out of high school. That's their world. That's what they think normal is.

Chart 9 shows normal. We think interest rates can't be low and stay low. This interest rate graph only goes up to Oct. 2002, so it doesn't include the most recent drops in the 10-year Treasury rates. The rates back in 1966 were as low as they

were in Oct. 2002. Rates below 4 percent on long Treasuries are the norm, not the exception. If we get into that type of environment, it will stay there for a while. If you go into deflation, you can't get out. Ask the Japanese. An article that I was reading earlier this week didn't make it look all that optimistic for the U.S. avoiding deflation.

However, at any time prior to the late '50s, today's rates would be high, not low. Nothing's guaranteed, so why should management react quickly to today's current low rates? Why should management care? In reality, if we change strategy to accommodate persistent low rates, then what do we do if they simply go back up in a few months? The protection against low rates may be very costly if the pattern reverses. This is always the argument when, in terms of management action included in our dynamic financial condition reports, you tend to put in projected management action because you know the whole scenario.

If I'm doing a five-year study where the stock market goes down by 50 percent and interest rates drop to 1.5 or 2 percent, then my management action is to buy a put at the end of year one. But at the end of year one when the first year conditions in the study have actually happened, you don't really know that the rest of the scenario will unfold in the same manner. As a result, the hedge that was planned to be bought at the end of year one does not really get purchased.

Economic impacts can have lasting effects on products that are popular. If we do end up with a sub-4 or sub-3 percent world, which we had for most of the last century, what happens? Equity investments may lose popularity as they did in the 1970s and as they have in Europe. Low fixed rates will minimize tax advantages of inside buildup. I looked at the marginal tax advantage of a fixed-rate annuity when you're crediting 10 percent, and over a 10-year period, it's 94 basis points per annum. You can pay a lot of comp and a lot of added expense, which you will get because as soon as you call something a life insurance contract, you get NAIC regulation. So you're actually competitive with an 11.6 percent certificate of deposit; and if you're crediting 10 percent, it's not likely anyone's crediting 11.6 percent on a CD. Get down to 3 percent and you're in exactly the same scenario.

The tax deferral advantage is 9 basis points and you're now competitive with a 3.15 percent CD. I looked in *USA Today* and they were quoting five-year CD rates at a couple of banks at 3.83 percent. The same article said Teacher's Life & Annuity was discontinuing sales of five-year GIC products because they couldn't meet the 3 percent guarantee after expenses. Your competition isn't always another insurance company, it's anyone who can replace you. The banks learned this on car loans. Car loans used to be the bread and butter at banks. Most car loans are done by GMAC or the equivalent at Chrysler or Ford.

Product focus is likely to shift in a low-interest environment. Pure protection products, which are not as interest rate dependent, may become more popular. This will have impacts on companies that are in the annuity business and not in the

protection business, and we see that in Japan and in Europe. Critical illness, term insurance and health are very large sellers in Japan. We may see a return to traditional products—getting out of variable and unit-linked, and back to par.

In the short run we'll probably see an increased use of junk bonds, pulling the Executive Life routine to try keeping the distribution system fed. We may also see an unprofitable fight for top line growth, with everybody trying to beat the other guy and nobody winning. Managing in force guarantees may end up taking priority over managing growth. We see that in some companies that have gotten into trouble, where just surviving becomes the operative rule.

Now I want to discuss distribution. I used to be a product actuary, but distribution wasn't my specialty, so I may be out in left field here. For variable products we may see a trend to more brokers. There was actually a survey of customers that I read recently, and for variable products and stock-type products, there was a growing sense of need for professional stock advice. Agents and banks are not considered to have that. Commission schedules for fixed annuities are going to fall through the floor. One company has recently lowered its commission rate by over 300 basis points. Lower commission equals less incentive. Companies that are heavily wealth focused may need to adapt new skills.

Another consideration is reinsurance risk, especially offshore. There's a lot of business out of the United States that's been given to companies like Annuity & Life Re. A lot of the Bermuda-based, off-shore companies that provide XXX protection, GMDB protection and GMIB protection may not be around when the time comes to actually make the payments. Regulatory overreaction is also a risk because when it happens problems can be made worse.

MR. AARON SCHLAFLY: I'm with Ayudhya Allianz Life in Thailand. I have a question for Mr. Schreiber. To what extent are the Japanese government bank and government insurance company exacerbating the problem of the insurance companies and banks in Japan?

MR. SCHREIBER: Are you talking about postal savings and insurance products?

MR. SCHLAFLY: Yes, I'm talking about the postal bank, postal life.

MR. SCHREIBER: I think it's hard to say whether it's exacerbating it or not. I think clearly the government has been much more focused on solving the banking problems than the insurance industry problems, and as a result they've worked to keep rates down. The postal system is the largest insurer in the world. It's a huge system. You hear a lot of complaints from the insurance industry about the unfair competition. In effect, the government is subsidizing it. However, I don't think I would say that the postal system has exacerbated the problems though.

MR. ISADORE JERMYN: I'm with Massachusetts Mutual Life Insurance Co. Does

having more or fewer mutual companies versus stock companies make a difference in terms of dealing with the problems? If you look at the UK, Germany or other countries and then look at the United States where we've obviously had a flood of demutualizations over the last five to 10 years, how might that play into how we might deal with a crisis assuming that in fact what we're seeing now in Japan with the interest rates and equity markets does play out in the U.S. over the next five to 10 years?

MR. SCHREIBER: I think you see in the United States in the demutualized companies that there's a shorter-term focus, as management every quarter has to think about how it is doing. I think there is a lot more focus on profitability than you had seen in the past in the mutual structure. I think in Japan, because of the mutual structure, it was basically the whole industry there and nobody really focused on profits. That contributed to the problem there. Bob talked about the two Japan situations, and it really is two different situations. I think a lot of the problems that companies were experiencing in the mid- to late-1990s were because of management problems. I think a lot of the ongoing problems the companies are facing are because of economic problems in the entire industry there. It's hard to lay all that blame on management at this point, but I do think that the lack of focus on profitability through the mutual company structure did contribute initially to the problems in Japan.

MR. MUELLER: I'll answer for Germany and maybe Bob wants to answer for the UK, because he knows the UK market quite well. In the German market it's quite interesting because if you looked from the outside, a mutual company really isn't run much differently than a stock company. There's not much difference in the underlying profitability either. The key difference is probably that the senior executives in the mutual company really have nobody telling them what to do. They have an annual meeting with the mutual policyholder committee. They give them a nice lunch, tell them a nice story and then they go about their merry way. So the difference is that some companies like Allianz and others have gotten a lot of flak from their shareholders, but I think if you looked at profitability for the industry you'd probably find that the mutuals have done just as well, maybe even better, than some of the share companies and there's a very large portion of the industry in Germany that's still mutuals. You haven't seen a lot of demutualizations in the industry. So it really hasn't helped one way or another that they have a lot of mutuals still in play.

MR. WILSON: I think what you would see in mutuals versus stocks is a greater variance in the mutuals, where some mutuals would be at the risky end, no knowledge of profit and no concern about it, and at the other end you would have mutual insurance companies that would not get into stupid products because they don't have to answer to analysts who are asking why your top line growth is lagging behind. It's the top line growth focus that is forced upon stock companies that is dangerous. All of the banks are stock. There's no such thing as a mutual bank and yet they all followed each other into the lesser developed country lending during

the late 1980s, early 1990s. I might be wrong on the time period there, it might be a little later or a little earlier. If one bank was getting a lot of business lending to Latin America then the analysts and the Board of Directors want to know why you aren't there. It is very difficult in that environment to say they're wrong and they have a 2 percent chance of losing a large amount of money as a result of doing that because that also means you have a 98 percent chance of not losing a lot. A stock company has a much harder time not taking that risk because the analysts will savage you and savage your stock because you were obviously stupid.

MR. JERMYN: I have a different question regarding the role or lack thereof of rating agencies in the different countries that you've been talking about relative to what has been happening to companies. To what extent were they ahead of the curve versus behind?

MR. SCHREIBER: In Japan, the rating agencies really didn't even exist until after the first company failed, so I think they were behind the curve there. Actually, when I was in Japan, I wrote an article about rating agencies and it got translated into Japanese to help explain to Japanese insurance executives who they were and what they were and what process they went through. I concluded by saying they will become important if there's one failure, which did happen. Most of the domestic companies are rated very low. One could question whether they should be rated even lower, but in general it is hard to see them lowering the ratings even more.

MR. MUELLER: There are parallels between Japan and Germany. Speaking from a German perspective, the same thing is true. While there were no insolvencies in the market, rating agencies were virtually unnoticed. While they were doing ratings, they were primarily doing them based on public data. They would download the annual statements and do some kind of a rating. They would send it to the company and say here's what we come up with, and if you want a better one, you have to show us your data.

Nine out of 10 companies just totally disregarded that mail. They just didn't care. Now it has become an issue. At that point in time, just like in every market in the world, insurance was sold, not bought. The distributors sold insurance up until probably 2000 primarily on who's going to offer the lowest premium and who's going to offer the highest projected illustrated maturity value or who's got the most funds in the unit linked product. That's how insurance was sold. The underlying protection of policyholders was not an issue, because there were no insolvencies. Even the regulators were more of a 'good old boys' type committee than tough regulators, because they didn't have to worry. As soon as the first companies had their backs against the wall and some had to be bailed out, there was much more focus on solvency and on rating agencies.

The headlines now are 'big is beautiful,' and it's not so much who's got the lowest premium and who's got the highest maturity benefits. The focus has changed very much from looking at the consumer values to looking at financial security in the

company and that's why companies like Allianz and others who are big in the market all of a sudden are gaining tremendously, compared to the dwarfs that used to take their business away.

MR. WILSON: The UK is very similar in that you didn't see rating agencies, and not just for insurance companies. In our UK bond portfolio, almost everything was unrated, because even corporate bonds weren't rated by the rating agencies. It just wasn't part of the culture in the UK.

MR. JAMIE BEYER: I'm from Clarica U.S., and I actually got the pleasure of doing the dynamic capital adequacy testing (DCAT) modeling for the Japan scenario that you had mentioned earlier. I was just curious if for the overall Sun Life Corporation, did that result in insolvency, and what were the main management actions taken for that scenario?

MR. WILSON: Initially, the main management actions were nil when we first did it in 1999. Fortunately, Sun Life is a pretty strong corporation, so even under the Japan scenario we did not go bankrupt. We eventually did buy a hedge for the GMDBs in the United States and a couple of billion dollars worth of put options on the S&P 500. We do have in place some interest rate floor options that we've purchased for some of our product lines, and there were lines of business that we exited as a result of DCAT scenario testing.

MR. KEN LASORELLA: I'm with Sun Life Financial. To what extent do you think that government regulatory bodies have contributed to the problems in other jurisdictions? If you do think that's the case, such as in the UK where there might be unreasonable expectations from the policyholders that might have to be met by companies, do you think the companies would have the fortitude to deal more harshly with regulators or just exit those businesses?

MR. WILSON: I think even the FSA would admit that some of the actions that they have taken have been counterproductive. If we come to North America, the cash value requirements in the United States, which have been around since time immemorial, are a problem. They have put a risk on companies that should not be there, and in Europe in general they also have guaranteed minimum interest rates that you have to credit, which is an impingement on the free capital markets.

MR. MUELLER: Yes and no. That's one of the downsides. I think the big issue is that in Europe insurance has long enjoyed tax advantages because it was seen as a product for retirement and for long-term protection and accumulation. The counterpart of that was that insurance had to offer benefits that you wouldn't get from a bank or from a mutual product, like a lifetime annuity option or certain guarantees over that period. So in a way, it was partly the payback that insurers were being asked to provide for getting all these tax advantages.

MR. WILSON: I was separating regulator from tax authority.

MR. MUELLER: But the insurance regulators in most of the European markets and the tax authorities kind of work hand in hand, and you don't have a choice. In other words, like last September when the government sent those faxes to the insurance companies, they didn't have a choice. They couldn't say no, we don't want to sell our equities. That was like a command, and if they hadn't done it, the insurance authorities actually have the right to step in and take the company over, even if it's financially in fine shape. So they basically said, by the end of next week you have to have your equity proportions down to below 10 percent.

Large companies selling large private equities contributed to the market really taking a low at the end of September. So you don't have a choice as a company. As I said earlier, some of the European players have chosen to go into markets like Luxemburg or the IFSC in Ireland where regulators generally can be negotiated with much more. Just by getting a license you can actually sell in the regular markets, because the regulations of your home country authority and the approval in the country you're selling in becomes much more of a formality, and they don't have much of an objection unless you violate the general good.

In other words, if they think you're selling a fraudulent product, they have the right to take your license away. But if they don't have any proof or just otherwise don't think you're doing anything wrong, you can pretty much get approved in one market and sell products into all other markets, as long as you comply with the local tax requirements.

MR. SCHREIBER: Looking more at the banking industry than the insurance industry, I think the unwillingness to let a big bank fail and to take that pain has really dragged out the problems in Japan. Just last week the fifth-largest bank was nationalized. The government is going to end up putting in about $17 billion to keep it afloat and then there's no incentive for the other companies to clean up their act knowing they have a government backstop there.

FROM THE FLOOR: You were saying that some of the banks prop up the insurance companies and the insurance companies prop up the banks in Japan, and in Germany they also have some pretty cozy relationships with share holdings. If there were some terrible scenario in the United States, do you think the government would be quicker to step in? Would they be willing to let banks fail and just see what happens as a result, or would they continue to prop up the markets and things like that?

MR. WILSON: Why don't we ask one of the regulators that? The United States did bail out a bunch of savings and loans, but they also allowed others to go under. They cleaned up the mess, and Japan hasn't cleaned up the mess. I mean, it may have taken lots of money out of the federal till to do it, but they did clean up the mess.

MR. SCHREIBER: But there's been a huge amount of study about what happened

with the savings and loans in the United States. The Japanese have studied it very closely and they understood the decisive action that was taken in the United States. It cost a lot of money, but it got the problem behind us, and let us move forward. While it's been studied to death, they really haven't taken similar actions.

Chart 1

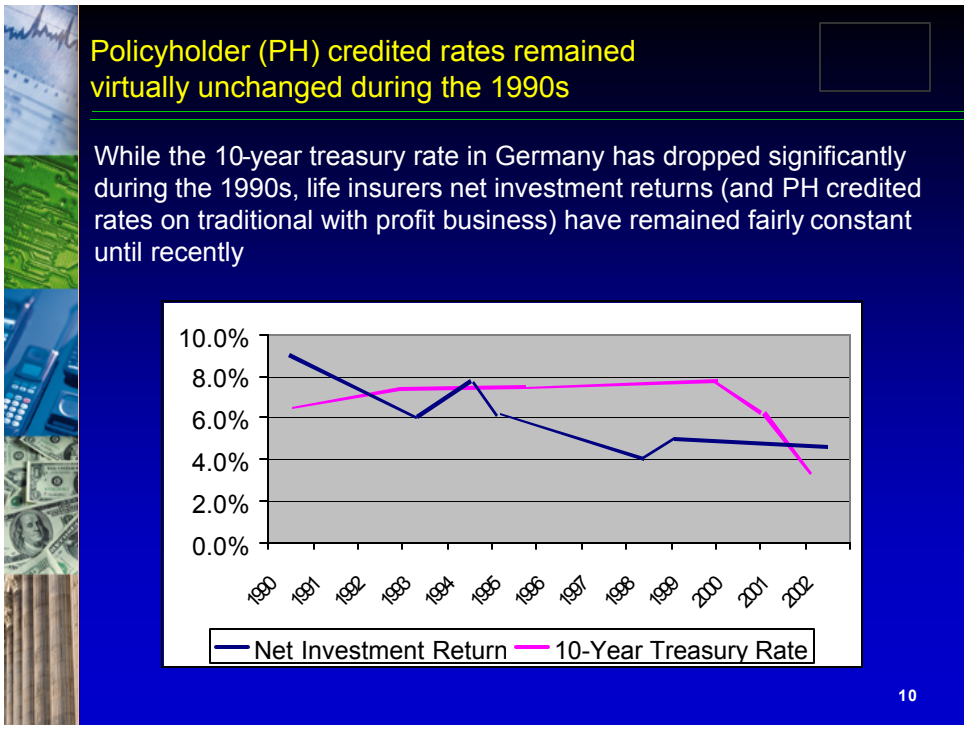


Chart 2

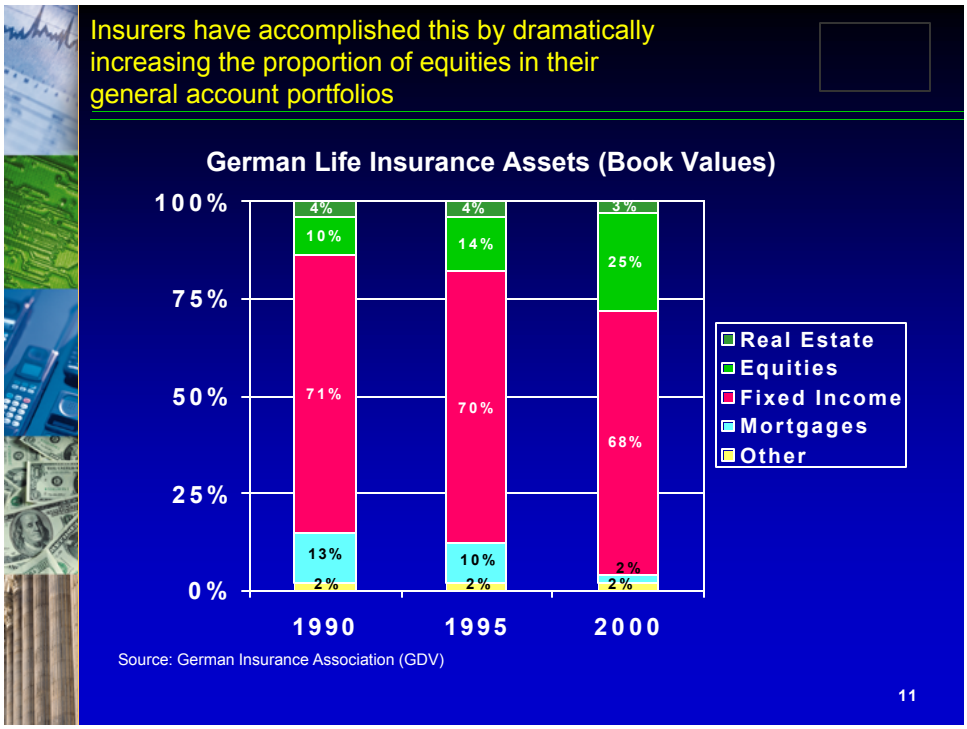


Chart 3

Applying US RBC factors, the ratio of RBC/assets would have tripled in the last 15 years (€ mn)

Year	RBC*	German Life Assets	RBC/Assets %
1985	4,143	148,040	2.8%
2000	45,434	542,534	8.4%

*C-1 Risk only

- Increase has been driven primarily by the higher proportion of equities backing liabilities
- Credit exposure is only moderate

However, European Solvency Regulation does not take into account the riskiness of the asset portfolio.

12

Chart 4

Unrealized capital gains (UCG) have dramatically declined since 1999, to support PH credited rates

Mio €	Risk Based Capital (C1)	Capital and Surplus + free Bonus Reserve	Unrealized Capital Gains*
1999	39.320	40.810	71.960
2000	45.434	45.512	58.864
2001	46.715	45.486	30.431
2002**	48.000	45.000	0.000

*Δ (MV - BV) on all assets

** Tillinghast estimates

" Everybody is doing it, so it can't be wrong!"

"We have never had an insolvency in this market!"

13

Chart 5

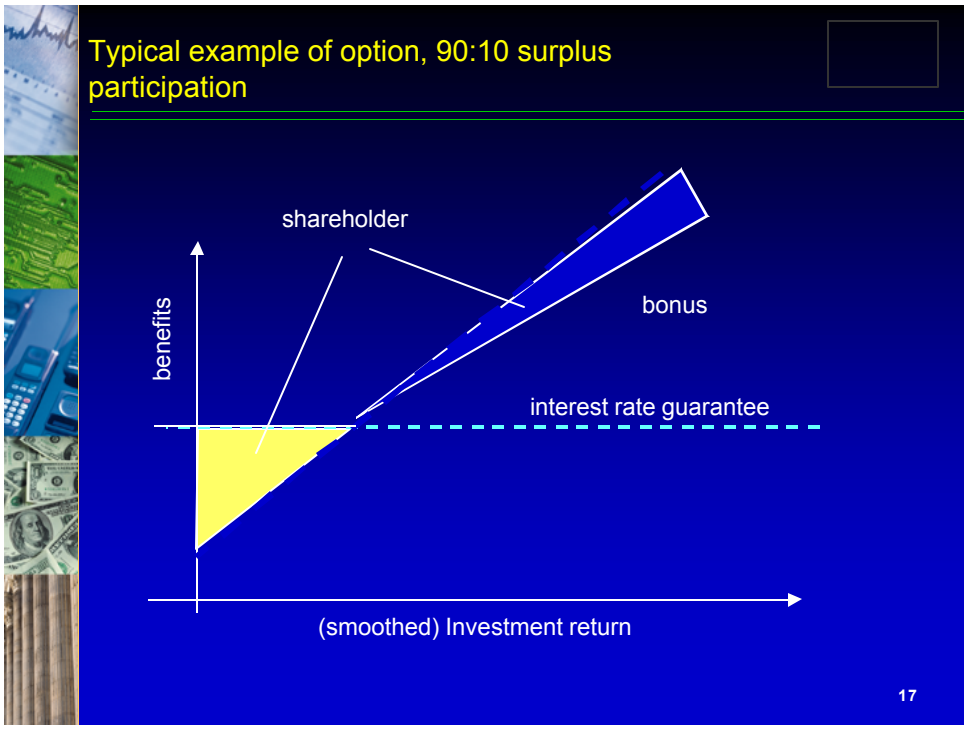


Chart 6

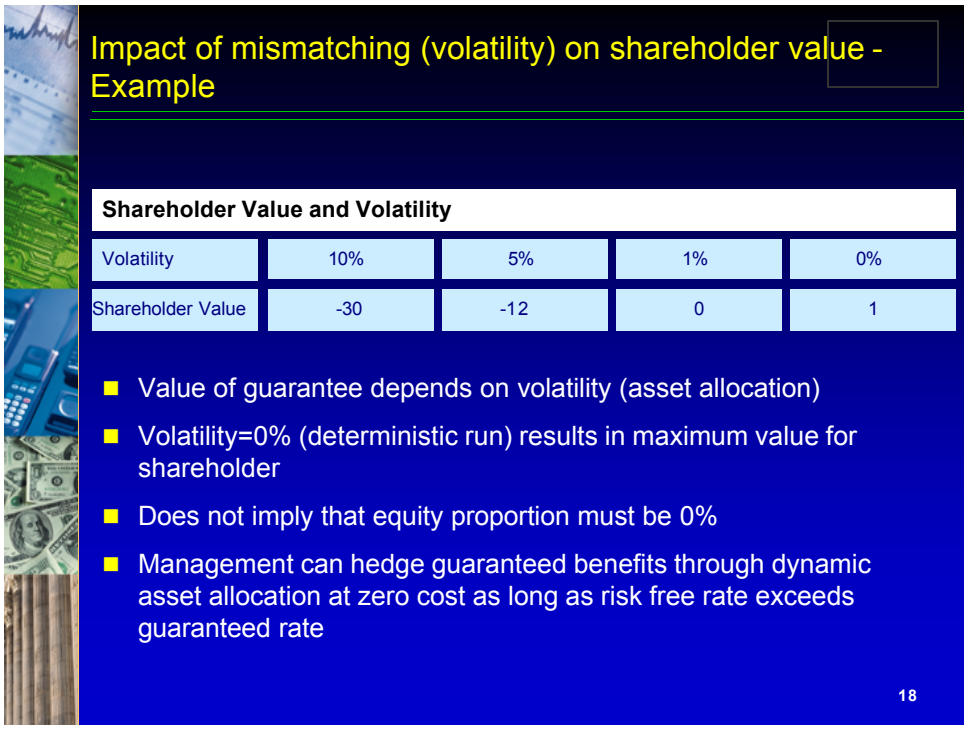


Chart 7

Japanese Life Company Failures

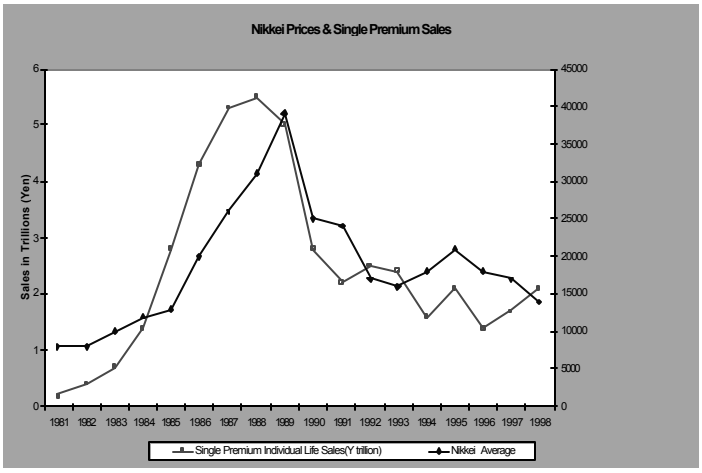
Company	Date	Assets as of 3/95 (¥ trillion)
Nissan Mutual	April, 1997	2.1
Toho Mutual	June, 1999	5.1
Daihyaku Mutual	May, 2000	3.4
Taisho Life	August, 2000	0.2
Chiyoda Mutual	October, 2000	6.4
Kyoei Life	October, 2000	5.4
Tokyo Mutual	March, 2001	1.5
Total: ¥24.1 trillion, or about $240 billion		

Based on 3/95 asset size, companies with assets supporting about 14% of the industry's liabilities have failed

Milliman USA

Chart 8

How did we get here?



Milliman USA

Chart 9


Long US Treasuries
16
14
12
10
8
6
4
2
0
%
1925
1929
1933
1937
1941
1945
1950
1954
1958
1962
1966
1970
1975
1979
1983
1987
1991
1995
2000
Year