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CATASTROPHE BONDS: SPREADING RISK

HEARING

BEFORE THE

SUBCOMMITTEE ON
OVERSIGHT AND INVESTIGATIONS

OF THE

COMMITTEE ON FINANCIAL SERVICES

U.S. HOUSE OF REPRESENTATIVES

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CATASTROPHE BONDS: SPREADING RISK

Tuesday, October 8, 2002

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATION,
COMMITTEE ON FINANCIAL SERVICES,
Washington, D.C.

The subcommittee met, pursuant to call, at 2:08 p.m., in Room 2128, Rayburn House Office Building, Hon. Sue Kelly [chairman of the subcommittee] presiding.

Present: Representatives Weldon, Tiberi, and Inslee.

Chairwoman KELLY. [Presiding.] Good afternoon. In the interest of time, I am going to go ahead and start this hearing. I understand there are other members that are on their way down, but I am going to go ahead and start because you have all come—a few from some distance, and I want to be able to get you fully heard before we end this hearing. So this hearing of the Financial Services Committee, Subcommittee on Oversight and Investigations will come to order. I want to thank all members of Congress who will be coming today. Without objection, all members present will participate fully in the hearing and all opening statements and questions will be made part of the official hearing record. The chair recognizes her self for a brief opening statement.

Let me first say welcome to what will likely be the last hearing of the Financial Services Committee for the 107th Congress. It would be an understatement to say that this committee has been busy. I know our staff agrees, and I want to take this opportunity to publicly thank the remarkable and very professional staff of the Financial Services Committee for their work this year.

They have done yeoman's work and we all appreciate it. The topic of discussion today is a new slant on an old problem. We only have to go back one Congress in the old banking committee to recall the numerous hours spent debating the creation of insurance capacity for disaster-prone areas. Individuals can disagree about the nature of the solution.

The fact still remains that increasing capacity in our insurance markets is incredibly important. Whether you are a disaster-prone state like Florida or California, or from a state like mine, New York, with terrorist-targeted properties, it remains to be seen how much in the way of accumulated losses the private insurance and reinsurance market can absorb before the entire market is put at risk. As we see today, large insurers and reinsurers are being downgraded by rating agencies and markets continue to harden. When we last looked at the issue of natural disaster exposures,

there was mention made of using the capital markets perhaps as a way to spread risk beyond the traditional insurance markets.

Let me quote from 1999 testimony in front of this committee. ″The potential capacity from the capital markets should not be ignored or underestimated during consideration of what was then Rick Lazio's federal disaster reinsurance bill. While still in its infancy, a lot of resources are being directed by capital markets intermediaries to encourage the development of the market.″ And further testimony stated, ″The development of this risk-linked securities market would revolutionize catastrophe insurance funding and greatly expand the capacity of the U.S. insurance market.″

In other words, the private capital markets made sense then and probably make even more sense now. Last year, Chairman Oxley requested the General Accounting Office to look at the use of catastrophe bonds and their track record to date. Some in the private sector suggested that what was once counted as the next big financing instrument never really took off in the market as anticipated. The committee asked the GAO to find out why exactly that was. Specifically, the committee inquired, if it was a structural problem, meaning these instruments are too complicated or produce prohibitive transaction costs, or if it was because the market did not understand how to evaluate their underlying risk, or if it was because the traditional insurance market was soft and there was not a demonstrated need for new sources of capital.

GAO appears before us today to discuss its findings, with an emphasis on the barriers and hurdles these instruments face. The team that put this report together is to be commended for their work in taking such a complicated topic and really boiling it down into its essential nuts and bolts. The committee greatly appreciates the GAO's work in this area and its cooperation with our committee staff in drawing its conclusions. Before I close, let me quickly make two points. The first is that this committee is looking to facilitate capacity creation in the insurance marketplace. In this case, we are examining catastrophe bonds. This is not to suggest that a booming market for these bonds should replace or be an alternative to traditional insurance financing such as risk-spreading by way of reinsurance.

Second, in no way should anyone leave this room thinking the Financial Services Committee is creating a new class of government bond or government-backed security. This committee is simply looking at ways to possibly remove barriers that will bring about greater acceptance of an instrument that already exists in the marketplace today.

With that, the chair will recognize the gentleman from Florida, my very good friend, Congressman Weldon. Congressman Weldon, have you an opening statement?

[The prepared statement of Hon. Sue W. Kelly can be found on page 30 in the appendix.]

Dr. WELDON. Yes, Madam Chairman. I apologize for being slightly late, Madam Chairman. I want to commend you for calling this hearing on a very important issue, not just for my congressional district in the State of Florida, but as well for the nation, and focusing the attention of the committee on the risks of catastrophic

events. My state of Florida is wrestling with this very issue as it braces itself for the kinds of storms that just hit Louisiana.

As is mentioned in the GAO study released today, the adequacy of the insurance industry's capacity to cover large catastrophes is a difficult question to answer. As you know, I have introduced legislation that addresses this capacity question by establishing the federal government as the insurer of last resort for mega-catastrophic events. The state of Florida experiences significant exposure to catastrophic events, yet people continue to relocate there, making it one of the fastest growing states in the country. Florida is also beset by litigation exposure, the complications of legislative and regulatory efforts and other factors such as sinkholes and mold.

Whether capital markets can enhance the capacity of an industry affected by so many forces remains to be seen. Who must act to stimulate the trading of risk-linked securities. Can they generate the kind of resources necessary that would motivate both primary insurers and reinsurers to confidently write more policies in Florida? Earlier this year, Chairwoman Kelly convened a hearing looking at the risks associated by not passing federal terrorism insurance legislation. During that hearing, Alice Schroeder, senior U.S. non-life equity insurance analyst for Morgan Stanley, stated that, quote, ″Insurance companies generally destroy, rather than create, value for their shareholders.″ I look forward to hearing from today's witnesses how risk-linked securities may overcome this dynamic, and I again thank you for calling this hearing.

I yield back.

Chairwoman KELLY. Thank you very much, Dr. Weldon.

Since there are no more opening statements, we will begin with the witnesses on our first panel. Presenting the GAO report is Ms. Davi D'Agostino, the director of financial markets and community investment division from the General Accounting Office. Accompanying her is Mr. Bill Shear, also from the same division. Next we will turn to the first of our two witnesses from the great state of New York, and I would like to welcome Mr. Michael Moriarty who is the director of the capital market bureau for the New York Department of Insurance. Mr. Moriarty appears on behalf of the National Association of Insurance Commissioners and serves as the vice chair of the NAIC securitization committee.

We thank you for joining us today to share your expertise on these issues. Without objection, your written statements will be made part of the record. Ms. D'Agostino has agreed that GAO will be given an extended period for its oral testimony, given the presentment of the report. All of our other witnesses will be recognized for a five minute summary of their testimony, and if you have not testified here before, at the end of the table there is a box that has different colored lights in it. Red lights mean stop; yellow light means you have one minute to sum up; and a green light obviously means go.

With that, we turn to you, Ms. D'Agostino, and we greatly appreciate your presence here today.

STATEMENT OF DAVI D'AGOSTINO, DIRECTOR, FINANCIAL MARKETS AND COMMUNITY INVESTMENT, GENERAL ACCOUNTING OFFICE

Ms. D'AGOSTINO. Thank you very much, Madam Chairwoman. Madam Chairwoman and members of the subcommittee, I am pleased to be here today before you to discuss our work on how risk-linked securities are used to address catastrophic risks.

These risks arise from natural events such as hurricanes and earthquakes. Population growth, real estate development and rising real estate values in hazard-prone areas increasingly expose the nation to higher losses from natural disasters than in the past. More than 68 million Americans live in hurricane-vulnerable coastal areas and 80 percent of Californians live near active earthquake faults. A series of natural disasters in the 1990s, including Hurricane Andrew and the Northridge earthquake raised questions about the financial capacity of the insurance industry to cover large disasters—these are important words— without limiting coverage or substantially raising premiums.

They also called attention to ways of raising additional sources of capital to help cover catastrophic risk. The insurance industry and capital markets developed risk-linked securities which both supplement the insurance industry's capacity and do provide an alternative to traditional property casualty reinsurance, which is insurance for insurers. Today, I will talk about one, how the insurance and capital markets provide coverage for catastrophic risk; two, how risk-linked securities, specifically catastrophe bonds, are structured and how they work; and three, how regulatory, accounting, tax and investor issues might affect the use of these securities and the advantages and disadvantages of potential changes.

First, catastrophe risk is a global phenomenon, and insurance and reinsurance companies with global operations often provide coverage. The color map before you on the screen, as well as in our report, highlights the areas of the United States that are most likely to experience certain types of natural catastrophes. Most insurance companies try to limit the amount and type of catastrophe risk they hold on their books.

For example, if property casualty insurers have written too many policies concentrated in California or Florida, they need ways to diversify and transfer that risk. One way is through reinsurance, where for all or part of the premiums collected, the reinsurer agrees to compensate all or part of an insurer's claims as they are incurred. When reinsurance prices or availability became problematic in the mid-1990s, insurers turned to risk-linked securities as an alternative way to spread catastrophe risk. Now, I will turn to the second area of my statement, which is how risk-linked securities are structured and how they actually work.

If you turn to page three of the written statement, you will see a graphic that will help you walk through how they are set up, at least in basic terms. Most risk-linked securities are catastrophe bonds these days, and they have complicated structures, as you can see, that are created off-shore. And they are created through special purpose entities which generally receive non-investment grade ratings. To develop a catastrophe bond, a sponsor, which is usually an insurance or reinsurance company, creates a special purpose re-

insurance vehicle or an SPRV, which you will see in the graphic before you, to provide reinsurance to the sponsor and to issue bonds to the securities market. SPRVs, which are typically located off-shore for tax and other advantages, receive payments in the form of insurance premiums, interest, and investor principal; invest in Treasury and other highly rated securities; and pay out to the investors in the form of interest.

The reinsurance provided to the sponsor through catastrophe bonds is different from that provided through traditional reinsurance contracts. Most of the recently issued catastrophe bonds are non-indemnity based. This means that they are structured to make payments to the sponsor upon the verified occurrence of specified catastrophic events. The payments are also based on pre-agreed financial formulas. The payments from the investor's principal to the insurer/sponsor are not directly related to the insurer's actual claims, and they are triggered by an event that meets an objective index or measure such as wind speed in the case of a hurricane. In this way, the investors avoid exposure to the risk that the sponsor or primary insurer has poor underwriting or claims settlement practices.

This very point is important to understanding some of the issues that were identified by industry observers to us and the third area of my testimony, the regulatory, accounting, tax and other investor issues that challenge catastrophe bonds. Accounting treatment for risk transfers occurring through non-indemnity-based catastrophe bonds is a challenge for regulators. With traditional indemnity-based reinsurance, an insurer gets credit for reinsurance on its balance sheet in the form of a deduction from liability for the risk transferred to the reinsurer, and can reduce the amount of regulatory risk-based capital required. Credit for reinsurance is designed to ensure that a true transfer of risk has occurred, and that any recoveries from reinsurance are collectible.

Calculating the credit with indemnity-based coverage is fairly straightforward. In contrast, it is very complicated to value the true amount of risk transferred to determine credit for reinsurance with nonindemnity-based coverage. The National Association of Insurance Commissioners is considering revising accounting treatment to accurately calculate and recognize nonindemnity-based reinsurance.

While these changes could facilitate the use of catastrophe bonds, it is very important that the credit accurately reflect the true risk transferred. Another development that could affect the use of catastrophe is a proposed change being considered by the Financial Accounting Standards Board to address consolidation of certain special purpose entities on a sponsor's balance sheet. The proposed guidance may increase the outside equity capital investment required and add other tests for a sponsor to treat an SPRV as "off balance sheet".

While the proposed guidance is intended to improve financial transparency in capital markets and to stem potential abuses of special purpose entities, it could also increase the cost of issuing catastrophe bonds. We also explored some of the tax issues raised by industry representatives. These representatives are considering a legislative proposal that would encourage domestic issuance of

catastrophe bonds by eliminating U.S. taxation of the SPRV. If special tax treatment were legislated, expanded use of catastrophe bonds might occur.

On the other hand, under certain conditions, the federal government could experience tax revenue losses and other industry sectors might pressure the government for similar tax treatment. Also, some elements of the insurance industry believe such legislation would create an uneven playing field for domestic reinsurance companies.

Finally, unlike other bonds, catastrophe bonds, most of which are non-investment grade, have not been sold to a wide range of investors. While investment fund managers we interviewed appreciated the diversification aspects of catastrophe bonds, the risks are difficult to assess and investors are concerned about the bonds' limited liquidity and track record. Madam Chairwoman, members of the subcommittee, that concludes my oral summary and I would be happy to answer questions.

[The prepared statement of Davi D'Agostino can be found on page 56 in the appendix.]

Chairwoman KELLY. Thank you very much, Ms. D'Agostino.

Mr. Shear, do you have anything you want to add to that?

Mr. SHEAR. No, I do not think so.

Chairwoman KELLY. All right, thank you.

Mr. Moriarty? Before you start, let me just say that we have for the audience facing this direction, you may not have seen the map that the GAO had up on the back screen. I wonder if we could put that map back up. I do not know how many people saw that. You may be interested in taking a look at that. Can we leave it up there for a little bit?

Good. Thank you.

I am sorry, Mr. Moriarty. Please go on.

STATEMENT OF MICHAEL MORIARTY, DIRECTOR, CAPITAL MARKETS BUREAU, NEW YORK DEPARTMENT OF INSURANCE, ON BEHALF OF THE NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

Mr. MORIARTY. Thank you, Madam Chairwoman. It is a pleasure to be here today to provide the subcommittee with an update on the state regulatory practices that deal with reinsurance and the related use of securities to transfer insurance risk. You have my written testimony, and I will try to use this allotted time to summarize the major points. State regulators are responsible for supervising activities of insurance companies that sell products here in the United States.

One of our main tasks is monitoring the financial condition of these insurance companies to ensure that they are able to honor the obligations to their policyholders and to claimants. Insurers that write policies here in the United States for the public invariably transfer some of the risk written to other entities in the insurance marketplace, primarily via the use of reinsurance. Like other financial services, companies and insurers try to spread and diversify risk among many of the market participants.

Because a primary insurer is under obligation to honor these direct or original insurance contracts, it is critical to their financial

well being that reinsurers are able to reimburse a ceding company for losses that are incurred. Hence it is incumbent upon regulators to effectively supervise the reinsurer and any other form of risk transfer. License reinsurers are subject to financial regulation similar to direct writing insurers.

Transactions with unlicensed reinsurers, especially those based abroad, are subject to regulation that focuses on securing collateral. A detailed explanation of the manner in which state regulators supervise reinsurance is included in my written testimony. Insurance securitization is another means to transfer insurance risk. Instead of transferring risk to the insurance marketplace, it is transferred directly to capital markets investors.

The NAIC formed a working group on insurance securitization in 1998 to determine our regulatory response to developments in insurance securitization. The NAIC's position is that U.S. regulators should encourage the development of alternative sources of capacity such as insurance securitizations, provided adequate standards governing these transactions are applied. Further deliberations of the working group at the NAIC led to a determination that it will be preferable if insurance securitizations could be done here in the United States instead of off-shore.

To further that position, the NAIC has adopted separate model acts to facilitate on-shore securitization using two different methods—protected cells and special purpose reinsurance vehicles. Under the protected cell method, a segregated unit of the insurance company would issue the debt securities. The funds taken in from the sales of these bonds would be kept separate from the insurer's general fund. If there is a loss to the insurance company or a triggering event, money can be kept by the insurance company. If not, it is paid back with interest to the bondholders.

The second method is the establishment of a special purpose reinsurance vehicle. This vehicle's only purpose is to transfer insurance risk to the capital markets via investment securities.

As Ms. D'Agostino indicated, it is our understanding that an impediment to the utility of both of these options here in the United States is tax uncertainty. Both of these methods depend on certain tax treatment which may require amendments to the tax code. The special purpose reinsurance vehicle needs a pass-through tax treatment. The protected cell needs to be recognized as part of the insurance company. The majority of the securitizations to date have been done off-shore. Many states do not have the laws to enable securitization vehicles and, as I indicated before, there are tax disadvantages or at least some uncertainty when doing these deals on-shore.

From a regulatory perspective, doing these deals on-shore would provide more transparency and better oversight. Even with traditional catastrophe reinsurance, coverage placed with non-U.S. reinsurers entails a certain amount of credit risk to the United States ceding companies. U.S. laws require collateral, but only of incurred losses. The sufficiency of collateral provided by off-shore reinsurers can only be known for certain after a catastrophic loss has occurred. Credit and collateral risk are clearly reduced by the use of securitization since they are required under the model laws to be fully funded.

Due to that security, companies that transfer risk via securitization now get credit on the balance sheet and income statement for the transfer of risk. Insurers' underwriting accounts, which measure the profit and loss for insurance transactions are adjusted accordingly for these indemnity-based transactions. The use of index-based triggers on non-indemnity transactions is more challenging. It is important that the basis risk in these types of transactions be measured or managed by the ceding company, and the NAIC is working with the industry on developing means to both measure and manage this basis risk. In conclusion, the NAIC supports creating an environment that facilitates a more fluid transfer of insurance risk to the capital markets.

Given the amount of capital in the property and casualty industry, a major catastrophe or series of catastrophes could strain the ability of the industry to respond to its customers. Capital markets have the capacity and apparent willingness to take on insurance risk. Capital markets also have precedence in the securitization of other risks such as mortgages, credit card receivables and other types of cash flows. The securitization of insurance risk is not a cure-all for the funding of catastrophe risk. We see it as an addition, rather than a replacement to traditional reinsurance. We cannot gauge the appetite of capital markets investors for these securities.

However, the NAIC believes it is important to enable the marketplace to make that determination. Other initiatives to address capacity needs for catastrophe and for other types of coverage should continue to be explored.

This concludes my oral summary and I would be happy to address any questions the subcommittee may have.

Thank you.

[The prepared statement of Michael Moriarty can be found on page 72 in the appendix.]

Chairwoman KELLY. Thank you, Mr. Moriarty. Ms. D'Agostino, in your report you break down the analysis of cat bonds into four main areas—regulatory accounting treatment, capitalization requirements, taxation and assessing the investment risk. Based on your analysis, can you rank the relative order of importance of these areas and offer recommendations to address them?

Ms. D'AGOSTINO. I think that it would be very difficult to rank them in order of importance. Some of them hinge upon each other and some of them are totally unrelated to each other. The accounting and tax treatment are mainly issues pertaining to whether these SPRVs come on-shore or not, and also in terms of the Financial Accounting Standards Board proposal, there are arguments that say that if the 10 percent outside equity capital requirement applied to these vehicles, then they would probably go away.

We are not sure about that, but we know that they would become a lot more expensive to issue and create. One of the key areas I think that really has an impact, and I think some of the people who will talk later will talk to this even more, is the investor-related issues. These are relatively new securities instruments so they do not have a great track record, and people are looking for a track record. There are some attractive elements to the bonds, es-

pecially the fact that they do not correlate with other risks in a portfolio.

At the same time, very few are issued, there is limited liquidity in them, and it is very difficult for people to evaluate the risk or get a comfort level with the risks in the catastrophe bonds. Further, some people who have not bought these—because we did try to find out from people who have not bought catastrophe bonds why they have not bought—and there were some concerns raised about their suitability for a certain element of investors in, say, a mutual fund—the more moderate income investors. I think that is a pretty important challenge to overcome.

Even if you took care of some of the other issues, you still would have that hurdle to deal with—trying to educate investors and make them more comfortable with purchasing catastrophe bonds and finding a place in their portfolio for them.

Chairwoman KELLY. Ms. D'Agostino, have you any recommendations for creating or helping people have some sense that these instruments are worthy of investment?

Ms. D'AGOSTINO. No, I do not. These instruments are very high-risk and high-return-type instruments, and they are noninvestment-grade bonds, not that that is a deterrent in and of itself, but GAO is not in the business of recommending bonds and the like. We do not have any recommendations for this, otherwise our report would have included them. I think our whole point of doing the work for you was to present the information to you and allow the policymakers to decide on where to go with this. We feel that we have gone as far as we can go in this area.

Chairwoman KELLY. Thank you. I thought it was worth a try.

[Laughter.]

Mr. Moriarty, I believe that the NAIC and possibly you have seen a draft of this report, and I wanted to know if you would care to comment, either for yourself or for the NAIC?

Mr. MORIARTY. We have not reviewed it at the NAIC level, so I will just give you my preliminary comments, Madam Chairwoman. I think the GAO did a very good job in setting out the issues, certainly from a regulatory perspective. With respect to the appetite of the marketplace, the investor concerns and even the tax issues there are outside of the purview of insurance regulators. I do not mean to operate in a vacuum here, but just looking at the financial solvency of the ceding companies, we think the biggest issue is with the non-indemnity-based transactions, which I think the capital marketplace would buy more of, so to speak, than the indemnity-based. I do think, though, that the basis risk can be addressed.

There are not best practices in terms of the insurance industry in measuring basis risk, partly because there have not been these transactions out there before and they have not had to measure it. But nonetheless, there is a great deal of talent in the industry in measuring and managing this risk, and we do think that disclosure of how companies measure basis risk when using these instruments can provide the regulators with a good basis to determine whether there has been in fact transfer of risk.

But again, going back to the report, we think it does state all of the issues that have been out there over the past four or five years in an accurate manner.

Chairwoman KELLY. Thank you very much. I am out of time.

Dr. Weldon, any questions?

Dr. WELDON. Yes, thank you very much, Madam Chairman.

Ms. D'Agostino, maybe you cannot answer this, but I will ask it anyway, how much capacity for coverage of natural disasters is likely to be added through risk-linked securities in the near future?

Ms. D'AGOSTINO. We did not undertake to try to project the future market for risk-linked securities. They have been covering a growing segment of reinsurance and catastrophe reinsurance, but I do not think that we are in a position to—

Dr. WELDON. I think your report, correct me if I am wrong, indicates it is one-half of one percent?

Ms. D'AGOSTINO. That is according to a Swiss Re report.

Dr. WELDON. So you say it is growing—it went from zero to one-half of one percent?

Ms. D'AGOSTINO. Well, it is growing in real dollar terms as well, into the billions of dollars.

Dr. WELDON. Is that right?

Ms. D'AGOSTINO. Yes. And actually catastrophe bonds have been written to cover Florida hurricanes as well as California earthquake perils.

Dr. WELDON. Okay. Would you agree it is kind of hard to speculate at this time the potential performance in the future, even though the real dollar amounts may be growing? As a percentage of risk, it is still quite negligible?

Ms. D'AGOSTINO. It is very difficult to project, for us anyway.

Dr. WELDON. You did not look at all at the rate of growth? Is it linear? And is it affected by economic variables at all?

Ms. D'AGOSTINO. Bill, do you want to take that?

Dr. WELDON. I know we did not ask you to study all these things, so I am not—I am just trying to get answers to some of these questions.

Mr. SHEAR. The growth has been relatively unlevel, and you would expect that because one of the major determinants is the price and availability of reinsurance through traditional reinsurers. So it has largely been dependent on certain events that affect the pricing of traditional reinsurance.

Dr. WELDON. Mr. Moriarty, in your estimation are we currently facing a capacity crisis? You say yes, is that right?

Mr. MORIARTY. Well, I think in terms of looking at the availability and the affordability of reinsurance, it has clearly spiked in the last year or year and a half. Throughout the 1990s, resinsurance was by all measurements very available and very affordable.

Certain events—certainly when you talk about the events of 9-11 with respect to terrorism coverage, and the availability of capital in the insurance industry, it is a hard market. So it has become more difficult to get insurance, and one would think that this would be the marketplace where alternatives such as insurance securitization would see a spike in activity. Whether it is an availability and affordability crisis, at this point I do not think so, but again clearly it is becoming more difficult to get reinsurance on terms that are favorable to ceding companies.

Dr. WELDON. Do either of you from GAO, Mr. Shear and Ms. D'Agostino want to add to that at all? Do you disagree or agree?

Mr. SHEAR. I do not disagree that recently it appears from the information we analyze that there have been increases in prices in certain types of reinsurance, and reduced availability. Part of the question which again we do not want to forecast, is how large the response would be to catastrophe bonds and potentially other forms of risk-linked securities.

Dr. WELDON. Mr. Moriarty, would you characterize the crisis as national or regional? Is it based on the nature of the risk?

Mr. MORIARTY. I would characterize the increasing prices and the increasing lack of coverage to be national. Anecdotally, I have heard that it is becoming more difficult in certain catastrophe-prone areas to secure reinsurance, but that is more anecdotal. But clearly, across the board the prices of reinsurance and the terms that ceding companies have been able to secure are becoming more difficult across the board.

Dr. WELDON. And you do not see a specific impact of a certain kind of peril on that availability at all? It is across the board, nationwide, and not affected by the peril being insured for?

Mr. MORIARTY. On a very broad basis, I think commercial reinsurance is more difficult to secure, and clearly terrorism coverage stands by itself on the side as being very unavailable and very unaffordable.

Dr. WELDON. Thank you, Madam Chairman.

Chairwoman KELLY. Thank you, Dr. Weldon. I would like to go back to you, Ms. D'Agostino. The GAO's report states that SPRVs are typically located off-shore for tax, regulatory and legal advantages. Wouldn't consumers be better advantaged if we improved our tax and regulatory treatment and bring the SPRVs back into the country, both for capital investment and for regulatory control?

Ms. D'AGOSTINO. I think arguments can and have been made on both sides. With every action one could take to improve the conditions for domestic SPRVs and catastrophe bonds on-shore, there could be a co-related trade-off. I mean, everything involves trade-offs. It is really up to the Congress to weigh those trade-offs and decide for itself as a matter of policy and law which direction it wants to take.

Chairwoman KELLY. That is a very interesting answer.

Thank you.

Mr. Moriarty, how soon can we expect the NAIC to revise its accounting treatment for risk transfer to help facilitate securitization of disaster risk?

And once the NAIC adopts the changes, who has to promulgate the changes in order to have them be effective?

Mr. MORIARTY. I will separate that into two responses. With respect to the indemnity-based transactions which reimburse the ceding company on a dollar-for-dollar basis, the NAIC has already promulgated accounting standards to allow, or have accounting standards in place with respect to special purpose vehicles, to allow companies to take credit for this transfer of risk. With respect to the model laws that allow the formation of protected cells, I believe that seven states thus far have enacted that model. With respect

to special purpose reinsurance vehicles, two states have adopted the model.

The other part of the answer with respect to the non-indemnity-based triggers, my sense is that the NAIC would be in a position next year to promulgate accounting guidance with respect to index-based securitization transactions. Being an accounting standard, it need not be adopted on a state-by-state basis. Most state statutes adopt the NAIC codification of statutory accounting principles once they are adopted by the NAIC, although states have the option of not adopting NAIC-specific principles. So I think we are looking at next year to finalize the accounting rules with respect to nonindemnity-based transactions.

Chairwoman KELLY. Thank you. Mr. Moriarty. What concerns do you have with the use of off-shore SPRVs? Do you share a similar concern with traditional reinsurance provided by off-shore entities?

Mr. MORIARTY. Well, the securitization deals that have been done off-shore have been done by a select number of either companies or investment banks who have been more than willing to share information with us. Nonetheless, the fact that they are done off-shore could lead to a concern for transparency when looking at a transaction.

We think that there would be a lot of benefit in terms of sheer transparency if they were done on-shore, if they were subject to review by state regulators. Clearly, that would enhance our ability to get all the details should there be a concern sometime in the future. But that being said, the deals that have been done off-shore, they are not inherently bad. Just from a pure transparency viewpoint, regulators would be better served if they were done on-shore.

Chairwoman KELLY. Thank you. I would like to ask you both, based on your discussions with private sector people, what segment of the market is most likely to use these risk-linked securities? Can you give me a reason why? I have a follow-up question to that, but I would like to hear your answer to this. Can you give me—either one of you—just please answer that one question. Ms. D'Agostino, do you want to start?

Ms. D'AGOSTINO. If you are talking about the investment side, it is institutional investors. Part of that is driven by the nature of the catastrophe bonds, and part of it is driven by how they are issued under a specific type of rule, 144b, that the SEC is in charge of. If you are talking about from the issuance side, mostly insurance companies and reinsurance companies issue them. The other interesting fact is that insurance companies and reinsurance companies also buy them. So it is just—it is an interesting area.

We have learned a lot, and some of the things I cannot explain, like why a part of the industry that both buys them and issues them might feel uncomfortable with risk-linked securities coexisting in the marketplace with regular reinsurance.

Chairwoman KELLY. Would transparency help? Would increased transparency help, as Mr. Moriarty pointed out?

Ms. D'AGOSTINO. I am really not sure. I think the transparency might make certain investors more comfortable with them.

Chairwoman KELLY. Mr. Moriarty, would you like to answer that question? MORIARTY: Sure, Madam Chairwoman. From the insurance industry point of view, most of the deals done to date have

been securitization of the very high level catastrophe risk, and we would see that trend continue in view of the apparently increasing price for reinsurance coverage as the return to investors in a securitization deal would better match the risk that they are undertaking. Again, I have heard from the investor's viewpoint, I think establishing those is correct.

These have been big institutional investors and you will hear from one of them this afternoon—and there apparently is some attractiveness to these types of securities in terms of their non-correlation to the rest of their investment portfolio, as the happening of a catastrophe has nothing to do with the sliding real estate market or concerns in the equity of the bond market. But again, the utility of these bonds and these deals to date have been to provide the upper layers of catastrophe covers, and I would think that they would continue along those lines. Conceptually, I think it could cover any high level type of risk.

Chairwoman KELLY. Thank you. Dr. Weldon, have you another question?

Dr. WELDON. I just have one or two more questions, Madam Chairman. For the GAO witnesses, could you expand on the fact that risk-linked securities are considered non-investment-grade, and do they help diversify a portfolio? Could these securities be considered a hedge to help investors reduce market risk? Is that the proper way to describe them? Do they therefore then become not an investment of first choice?

Ms. D'AGOSTINO. Where do we begin?

Mr. SHEAR. Yes, where do we begin?

Ms. D'AGOSTINO. Maybe the—

Dr. WELDON. Mr. Moriarty, you are free to comment on that.

Mr. SHEAR. The noninvestment-grade bonds—as we know, there are fairly large transparent markets for noninvestment-grade bonds generally. These are different types of noninvestment-grade bonds. They have the advantage of not being correlated with other forms of credit risk. In terms of some of the questions with transparency, by definition a bond market is going to have greater transparency than the traditional insurance market, which is governed by private contracts.

To some degree in terms of talking about where this could go and why we are so uncomfortable projecting where these would go, the extent to which any changes along tax or regulatory fronts, other types of fronts, could facilitate use of risk-linked securities, there are advantages to the greater transparency that could occur. There could be more discovery in the marketplace. But this could be a circular argument in the sense that we say there is limited liquidity which limits their attractiveness, yet that limited liquidity in a sense is searching for a larger market.

So that becomes the big question. We are not quite sure what the response would be to any legislative or other changes. But by the same token, the hope of the market—I think you will hear more on that from the second panel—would be if liquidity could be increased, you might have greater transparency and perhaps a larger investment base.

Dr. WELDON. Did you want to add to that at all, Mr. Moriarty, or would you rather steer away from the issue?

Mr. MORIARTY. Again, they are generally noninvestment-grade securities, but there are many noninvestment-grade securities out in the marketplace. Rating agencies review these securities and they assign a rating based upon the probability of default. These bonds have a probability of default, i.e. of a catastrophe happening, the same as any other noninvestment-grade bond. When we look at insurance company portfolios, we look at their credit quality; we look at diversification.

To the extent that a life insurance company would hold a catastrophe bond would not alarm us any more than they would hold any other noninvestment-grade bond. Clearly, if they made up a large part of their portfolio or if they did not have the capital to support it, it would cause a concern. But again, I do not think these stand out there as a class by themselves in comparison to all the other noninvestment-grade-type securities.

Dr. WELDON. Thank you very much, Madam Chairman.

Chairwoman KELLY. Thank you, Dr. Weldon. If there are no further questions, the chair notes that some members may have additional questions that they may wish to submit in writing. Without objection, the hearing record will remain open for 30 days for members to submit written questions to these witnesses and to place their responses in the record. The first panel is excused, with this committee's great appreciation for your time.

If the second panel will take their seats at the witness table, I will begin the introductions. On our second panel, we will begin with Mr. Christopher M. McGhee, who is the managing director of the Marsh and McLennan Securities Corporation, testifying on behalf of the Bond Market Association. Next, we will hear from Mr. John Brynjolfsson, who is the executive vice president of PIMCO, the Pacific Investment Management Company, one of the world's largest fixed-income managers with over $270 billion in fixed income investments.

Finally, we will hear from Mr. Dan Ozizmir, who is the senior managing director of trading for the Swiss Re Financial Products Corporation, whose American headquarters is located in Armonk, New York. I want to thank you all for taking time out of your busy schedule, and I really appreciate the fact that you are with us today. So without objection, your written statements will be made part of the record.

You will each be recognized in turn for a five-minute summary of your testimony. If you are ready, Mr. McGhee, we would like to begin with you.

STATEMENT OF CHRISTOPHER M. MCGHEE, MANAGING DIRECTOR, MARSH & MCLENNAN SECURITIES CORPORATION, ON BEHALF OF THE BOND MARKET ASSOCIATION

Mr. MCGHEE. Good afternoon. On behalf of the Bond Market Association, I would like to thank the committee for holding this hearing on risk-linked securities. My name is Christopher McGhee and I am a Managing Director of Marsh and McLennan Securities Corporation in New York. I also serve as chairman of the Risk-Linked Securities Committee of the Bond Market Association. This committee includes representatives of securities firms that are ac-

tive in the primary distribution and secondary trading of risk-linked securities.

I should note that my firm is an affiliate of Marsh and McLennan Companies, a global professional services firm whose operating companies include the world's leading insurance and reinsurance brokers.

I have submitted a statement for the record that includes a diagram of standard catastrophe bonds transactions. I will summarize my written statement here and will be happy to answer any questions the committee may have at the end of testimony.

Risk-linked securities developed in the wake of the major catastrophes of the 1990s. Following Hurricane Andrew in 1992 and the Northridge quake in 1994, catastrophe reinsurance prices more than doubled and became much more difficult to obtain. Risk securitization had been discussed in years preceding the natural disasters of the 1990s, but it really took the capacity crunch and price spike caused by Andrew and Northridge for securitization to be seen as a realistic risk-transfer mechanism. Risk securitization has the potential to generate significant sources of catastrophe risk-taking capacity on the part of insurers and reinsurers.

This would, in turn and most importantly, enable insurers to assume greater amounts of catastrophe risk from their policyholders. Much as the secondary mortgage market brought the cost of home finance down significantly, we hope that insurance securitization could make catastrophe protection more broadly and more cheaply available to policyholders.

We hope that such an increase in coverage would substantially reduce the burden on the federal government to provide emergency disaster relief to uninsured homeowners following a natural catastrophe. Bear in mind, at the end of 2001 only 17 percent of Californians had earthquake insurance.

Since 1997, 45 catastrophe bond transactions have been completed, with a total risk limit securitized of almost $6 billion. While this figure is not insubstantial, it could be larger.

We do believe there are certain actions which could be taken which would facilitate the development of this marketplace. These include, first, permitting reinsurance special purpose entities to be treated as flow-through vehicles from a tax perspective. As in all securitizations, repackaging risk requires the use of a special purpose entity. Establishing the SPE in the jurisdiction of the U.S. tax code would subject the RLS transaction to two layers of U.S. federal tax and perhaps even state taxes, making the transaction more costly for issuers and less attractive to investors. As a result, the bulk of all these transactions today take place off-shore in jurisdictions with no entity-level tax.

To fix this problem, Congress could permit reinsurance SPEs to be treated as flow-through vehicles that would not be taxable at the entity level. This has already been done with mortgage-backed securities under REMICs and FCTs This would encourage risk securitization to come on-shore and as such would be less costly and less complicated to transact. We believe that this would result in an increase in transactions overall, and as noted, policyholders would be the ultimate beneficiary of this new risk capacity.

This issue is, of course, a matter involving the tax code and as such we recognize that this is not subject to the jurisdiction of this committee, but rather than of the Committee on Ways and Means. Therefore, we mention this here only so that we can be complete on the issues facing the marketplace.

The second action would be to ensure that the economic substance of all these transactions are taken into account under the pending accounting rules concerning the consolidation of SPEs. In short and in general, we do not believe that any entity other than the SPRV should be made to consolidate the risk-linked security onto its balance sheet, specifically neither the sponsor of the transaction or any investor should be required to consolidate the full transaction.

Accounting consolidation we think would produce misleading financial statements because the consolidation does not reflect the economic exposure of the parties to the transaction.

Let me conclude with these final points on behalf of the association. First, risk-linked securities are beneficial to policyholders as they can help expand the availability of competitively priced catastrophe insurance. Second, the RLS market can relieve pressure on governments to insure catastrophe risk.

Third, flow-through tax treatment of RLS would bring transactions on-shore and we believe would encourage the further development of this marketplace. Again, we recognize that any action on this matter is within the purview of the Committee on Ways and Means.

Fourth and finally, the proposed FASB accounting rule as currently contemplated should not require consolidation of the SPE's balance sheet in the financial statement of any party involved in the transaction.

A contrary result would be severely detrimental to the development of the RLS marketplace. Thank you for providing the Bond Market Association the opportunity to testify.

[The prepared statement of Christopher M. McGhee can be found on page 64 in the appendix.]

Chairwoman KELLY. Thank you very much, Mr. McGhee.

Mr. Brynjolfsson?

STATEMENT OF JOHN BRYNJOLFSSON, EXECUTIVE VICE PRESIDENT, PIMCO

Mr. BRYNJOLFSSON. Madam Chair and members of the Committee on Financial Services, I welcome this opportunity to share my expertise and recommendations. This testimony is offered in my capacity as an individual with extensive experience relating to risk-linked securities, and not in my official capacity as an officer of PIMCO.

I believe that the risk-linked securities market holds great promise for your constituents and our nation more generally. I therefore am strongly supportive of your efforts to foster the unfettered development of this market. The committee has forwarded to me six questions, four of which I will answer now orally. Question one, what attracts investors to risk-linked securities?

Risk-linked securities can provide investors with a handsome yield in exchange for absorbing a small amount of risk. I will give

an example. Five years ago in 1997 and every year since, PIMCO, my employer, has participated in a transaction known as residential reinsurance. This risk-linked security allowed USAA, one of the nation's largest insurers of military personnel, to cede $400 million of super-catastrophic risk to the capital markets. PIMCO purchased 17 percent of that transaction, representing $69 million of catastrophic hurricane risk.

In particular, the risk-linked security PIMCO bought was only exposed to the most catastrophic of hurricanes—for example, a category five hurricane passing directly over Miami, where a large number of retired and active military personnel reside, would have triggered a loss on this bond. In contrast, a category four hurricane passing 20 miles south of Miami, as Hurricane Andrew did in 1993, would not have triggered a loss. Despite a relatively handsome yield, the risk of loss on these bonds could be quantified as a once in 100-year event.

Question two, what factors have limited your investment in risk-linked securities? One factor that has limited our use of risk-linked securities is that our competitors rarely use them. As a result, upon the first serious loss, our use of risk-linked securities may become a lightning rod for journalists and lawyers who would be quick to second-guess our decision.

Question three, should individuals invest in risk-linked securities? The risk-linked securities market is by no means appropriate for the direct participation of individual investors. Generally, all risk-linked securities issued in the U.S. have been issued under the framework of regulation 144(a) that limits participation to qualified professional asset managers. Individuals can and do, however, appropriately access the risk-linked securities market in a very small dose through broadly diversified mutual funds managed by competent professionals.

Question four, what does the future hold? I would suggest that the risk-linked securities market is currently struggling to get any notice whatsoever. This is temporary and simply caused by the substantial turmoil that the equity and corporate bond market are currently experiencing. Ultimately, the risk-linked securities market will likely develop into an instrumental part of the global reinsurance infrastructure.

Before I conclude, allow me to more concretely and specifically highlight for you how I think the development of the risk-linked securities market will impact your constituents.

First, the risk-linked securities market has the potential to substantially and dramatically increase the capacity and lower the cost of capacity in the reinsurance market. This is particularly true in the case of capacity relating to super-catastrophic risks—those once in a hundred-year events that inevitably occur and fill the pages of Life magazine.

Increasing this capacity frees up the limited capacity reinsurance companies have to address more complex risks such as terrorism. Ultimately of course, expanding capacity benefits both individual and small business consumers of insurance services. Your constituents may benefit a second time when the premiums the insurance industry charges are passed through in the form of interest on

bonds to your constituents' pension plans, mutual funds and other investment vehicles.

One last constituent is the IRS, whose revenues have the potential to benefit from the development of a robust risk-linked securities market. As the risk-linked securities market develops, premiums traditionally earned by distantly domiciled insurance companies will begin to be earned instead by taxpayers. I commend this committee for its proven success in making the U.S. financial markets more competitive globally.

Specifically with respect to risk-linked securities, I am supportive of your efforts to firstly lower barriers to development of the risk-linked securities market; two, to encourage the understanding and foster prudent use; three, to enhance market efficiency by promoting increased transparency and risk disclosure; four, solidify the contractual nature of risk-linked securities; five, streamline regulation and enable on-shore domiciling of special purpose reinsurance vehicles; six, standardize the fragmented nature of state insurance regulations. Most distinguished members of this committee, thank you for your interest. I am of course available to answer your questions.

[The prepared statement of John Brynjolfsson can be found on page 33 in the appendix.]

Chairwoman KELLY. Thank you very much, Mr. Brynjolfsson.

Mr. Ozizmir?

STATEMENT OF DAN OZIZMIR, SR. MANAGING DIRECTOR OF TRADING, SWISS RE FINANCIAL PRODUCTS CORPORATION

Mr. OZIZMIR. I would like to thank Chairwoman Kelly and Chairman Oxley for holding this hearing on risk-linked securities, an important and growing segment of the fixed-income and reinsurance markets. My name is Dan Ozizmir. I am the senior managing director and head of trading with Swiss Re Financial Products, a subsidiary of Swiss Re, the largest reinsurer in North America and second largest in the world. Swiss Re is also a member of the Reinsurance Association of America and the Bond Market Association. Swiss Re has an interest in this market from two primary perspectives.

We structure and underwrite new risk-linked securities and we access the risk-linked securities market as an alternative source of capital. Insurer motivation—to make sure it can pay claims after a catastrophe, an insurer can do the following: raise more equity capital by selling company stock; transfer risks to the reinsurance markets; limit risks by underwriting and asset management process. While not a perfect substitute for any of these approaches, transferring risks to the risk-linked securities market is a useful, fixed-cost, multi-accompaniment to these other tools for certain peak catastrophic risks to the insurance industry, such as east coast hurricanes and California earthquakes.

As an aside, an insurer needs to hold significantly more equity to underwrite peak exposures, like a Florida hurricane and California earthquake, than it does to underwrite non-peak exposures such as a single house fire or an auto accident. In fact, equity is an extremely efficient source of capital for non-peak exposures, as

we can use the same dollar of capital to underwrite many dollars of coverage.

The lower the cost of capital to insurers, the greater the availability of affordable insurance to policyholders. Making affordable insurance more available has important public policy implications. For example, as of the end of 2001, only 17 percent of California homeowners had earthquake insurance.

Presumably if earthquake coverage were less expensive, more consumers would obtain coverage. This in turn would reduce the potential burden on the government to provide emergency disaster relief following a major catastrophe. Investor motivation—generally, bond investors buy risk-linked securities, often known to them as cat bonds, to diversify their investment portfolios.

Adding risk-linked securities to a fixed-income portfolio reduces the expected standard deviation for the portfolio. In other words, the returns stay similar, but the portfolio risk goes down. This occurs because defaults on corporate bonds and natural disasters are not correlated. Given these diversification benefits, an obvious question is, why have many significant fund investors stayed on the sidelines. I have a more complete response in my written testimony, but the short answer is that some professional investors take the time to learn about the sector and get comfortable, while others have not yet done so. Mr. Brynjolfsson from PIMCO today is an exception.

The risk-linked securities market current status and future directions—at present for our company, risk-linked securities represent a relatively small, but strategically important source of capital. At present, we believe that while some low-rate insurers and reinsurers might face capital strain from the equivalent of two natural catastrophes on the order of Hurricane Andrew, yet industry as a whole remains capable of meeting its obligations. Note that notwithstanding the estimated insured losses from September 11, which were greater than Hurricane Andrew and the Northridge earthquake combined, reinsurance remains readily available.

A major exception, of course, to this rule is terrorism coverage, which is either not available or extremely expensive. On the whole, we expect the risk-linked securities market to continue to grow in several ways. First, we would anticipate the absolute amount of securities outstanding to continue to grow as new investors begin to participate and existing investors devote more capital to the sector. Second, we anticipate that over time, innovation will gradually broaden the types of risk securitized. On the second point, I would note in particular that the risk-linked securities market is not a near-term solution for providing capacity for terrorism risk. Terrorism risk cannot be quantified.

We believe that the only solution to this important and difficult problem is passage of a government backstop. In conclusion, we believe that the risk-linked security market plays a useful role in providing additional capital to the reinsurance and insurance industry. To the extent that it succeeds, it can also help increase the availability of affordable insurance to policyholders exposed to peak perils and therefore reduce the amount of uninsured losses from natural catastrophes. This concludes my testimony. Thank you very much.

[The prepared statement of Dan Ozizmir can be found on page 215 in the appendix.]

Chairwoman KELLY. Thank you very much, Mr. Ozizmir.

I have a question for you, Mr. McGhee.

If the FASB adopts new rules governing SPRVs to increase their equity requirements, how would that affect your securitization efforts to help protect consumers against natural disasters?

Mr. MCGHEE. We think it would clearly inhibit the growth of that sector. It would add expense, certainly. The equity component of a transaction would need to be paid more than they currently are under the fixed-income approach, so there would be an expense component there.

But in addition, there is a challenge in finding equity investors for these kinds of transactions. This is traditionally been a fixed-income market for fixed-income investors. Finding equity investors for this transaction we think is complicated and difficult. So we actually believe it would be a significant impediment to the growth of this marketplace.

Chairwoman KELLY. Thank you. Mr. Brynjolfsson, how can we facilitate the acceptance of natural disaster bonds by the investment marketplace? Do you think we need to help standardize information parameters or to improve the disclosure requirements? I asked this question of the prior panel. I would be interested in what you have to say.

Mr. BRYNJOLFSSON. Sure. At our firm, we have done everything that we can do to, let's say, maximize disclosure; and to actually limit these securities strictly to portfolios where the clients have previously acknowledged that we have the authority to invest in these bonds. Even there, we are still somewhat concerned about liability associated with our investing in these types of bonds.

It may just be a matter of education. What the committee is doing today in the form of publicizing, in effect, the GAO report and having hearings on this topic may help move the market in the direction of acceptance. Investors quite appropriately are concerned about the risk in their portfolios, now more so than ever. We have invested time and effort in developing the expertise to invest in these bonds.

To some extent, I have tried to facilitate our competitors' developing expertise by speaking at the Bond Market Association conferences on these topics and so on. But ultimately, my job is to take care of my investors and I hope others do the same for their investors.

Chairwoman KELLY. How would you assess the current market for these risk instruments?

Mr. BRYNJOLFSSON. Well, we have been an aggressive purchaser of these bonds, sometimes buying 25 percent or even 30 or 40 percent of individual transactions that have come to market over the past five years. In the past 12 months or so, we have been a little bit less aggressive. Part of the reason for that is the appetite for risk among the capital markets has been waning.

We have to some extent anticipated that, to some extent just been a victim of it. But the whole purpose of integrating the reinsurance market with the capital markets is to bring the reinsurance markets away from the reinsurance cycle that you may be

aware of where reinsurance rates harden and soften and harden and soften. Unfortunately, capital markets also have a cycle where capital market investors get driven by fear and greed and then fear and then greed. Right now, fear is the dominant sentiment in capital markets.

Chairwoman KELLY. I have another question for you, and that is, do you really need a Ph.D. in physical sciences in order to understand this risk?

Mr. BRYNJOLFSSON. You know, I have spent the past 12 years intensely focusing on the financial markets. Obviously, these securities are by and large a financial security. The firms that model the risk of this will have a dozen or more than that—50 or 60—Ph.D. scientists all evaluating the latest theories in earthquake, hurricane and so forth. Having some credentials in the physical sciences at least gives me some confidence that I can, let's say, read the reports that these scientists publish. I do not know if I would want to write them.

Chairwoman KELLY. Our hat is off to the GAO, I guess. I have run out of time here, so I am going to turn to

Dr. Weldon. Dr. Weldon, have you questions?

Dr. WELDON. Yes, thank you, Madam Chairman. I have got a question for Mr. McGhee and maybe Mr. Brynjolfsson, you can comment on it, too. There was some discussion—Mr. Brynjolfsson, you purchased a bond for a category five hurricane going over Miami.

Mr. BRYNJOLFSSON. Correct.

Dr. WELDON. Let me start with you, Mr. McGhee. What do you think would be the impact on the market if that were to happen?

Mr. MCGHEE. If there were an event like that?

Dr. WELDON. Next week.

Mr. MCGHEE. We have talked a lot about that question. The concern has always been that a big loss occurs and as a result investors exit the market. Our sense is that the investor universe in this particular category is extremely well informed. They understand the risks they are running, and we believe that it is unlikely that they would immediately exit the marketplace.

We think in fact that this might draw more investors in because the opportunities to buy more bonds at increased prices or increased yields we think would be available. So our sense is that investors would not cut and run; that they would actually stay there. We think this marketplace does have staying power.

Dr. WELDON. Do you agree with that, Mr. Brynjolfsson?

Mr. BRYNJOLFSSON. Well, there are two parts to that question. One is will the capacity we provide be there when an event occurs. As a major hurricane occurs, market participants start to get white knuckles and start to brace. Trading activity, pricing of the risk may occur. Bond prices may fall.

However, our firm is not really well positioned to monitor the minute-to-minute development of hurricanes. As a result, we are essentially buying these bonds ahead of time with the belief and plans to hold them throughout any disaster. Then we will see how the sword falls, and I hope avoid dying by the sword, if you will.

So what that means is that the capacity that is provided is there and will be there for the event that occurs. The second part of the

question implicitly is, on subsequent events, would we necessarily step up and provide additional capacity.

As Mr. McGhee suggested, probably not unless the price were even more attractive than initially. There is actually a market for what we call second event bonds, and we do participate in the second event bond market. That is a market where we are actually paid a premium in order to absorb the possibility of two major catastrophic events occurring.

The second event market is really a good example of how the capital markets can step in to provide not just backup capacity, but backup capacity to the backup capacity.

Dr. WELDON. I was not aware of this. This is a developing market, you are saying?

Mr. BRYNJOLFSSON. Well, it is part of the risk-linked securities market, and just as you have wind-risk bonds, earthquake-risk bonds, hailstorm bonds and so forth, you have something called a second event bond, which would not trigger on the first category five hurricane that hit Miami, but the second one would trigger it.

And they are usually structure so that you would need two smaller events like two category four hurricanes to hit in the same season, which again we can probabilistically model.

Dr. WELDON. Mr. McGhee, based on the diagram on page four of your testimony, the issuance of catastrophe bonds has decreased or flattened—is that true? Do you feel that it is a tax issue that is causing it to happen? Why do you think it is flattening out?

Mr. MCGHEE. It is hard to speculate, because I think there are a series of things that are feeding into why this marketplace has stayed relatively flat. The central issue is that catastrophe bonds are perceived by the potential sponsors of the transactions—insurance companies and reinsurance companies—as still relatively expensive as risk transfer mechanisms.

So essentially it is a cost issue. There is a certain large fixed cost component to issuing cat bonds. That relatively large fixed transaction cost means that there are a relatively small number of potential issuers because they must be issuing large transactions to spread that cost over the large transaction size. So it is essentially a cost issue, and if those costs could be brought down, we think that the capacity being sought in the capital markets would increase. So it is really a cost issue.

Mr. BRYNJOLFSSON. I would also add that it is my sense, and I do not have the data to back this up but perhaps one of the other panelists could verify what I am going to presume and that is, that recent transactions have tended to be multi-year transactions. This means that for any given amount of capacity, or for any given amount of issuance, rather than covering one year of risk, it is covering, say, three years of risk. From a capacity point of view you could multiply these reported numbers by a factor of three, because new bonds do not have to be reissued as frequently just to cover the same risk.

Mr. OZIZMIR. In fact, I believe the number right now of the outstanding capacity in the market is on the order of about $2.5 billion. So even as a dimension, if you issue $1 billion a year and they are multi-year transactions, over time the actual capacity that ex-

ists in the market that the reinsurance and insurance companies can take advantage of is in excess of that.

Dr. WELDON. I believe my time has expired. Madam Chairman, I did have a follow-up question.

Chairwoman KELLY. Go ahead and ask your follow-up question.

Dr. WELDON. In the GAO report, they have got on page 12, figure 2, Hurricane Andrew was $30 billion, with about $15 billion being insured and a little less than half uninsured. Northridge was $30 billion.

Then they show the World Trade Center, $80 billion—again about half is insured, half is not insured. It is very interesting—they have Kobe, Japan, the 1995 earthquake there, $147 billion of which $142.9 billion was uninsured. The impression I get is that relative to the amount of risk we have out there, this may be a growing segment and in dollar amounts it may be growing.

This is really a drop in the bucket relative to the amount of risk that is out there. Is that an accurate statement? It sounds like a good way to try to address the risk, and I am not in any way trying to knock the industry, but it is not covering a lot of risk.

Mr. BRYNJOLFSSON. Looking at just these four events and the decade or more they cover, if we were just to average the annual loss per year, we would be looking at something that appears in the neighborhood of $30 billion. As pointed out, this market is $2 billion or more. The capital markets in total are typically seen measured in terms of $30 trillion. So the capital markets clearly have the ability to absorb $2 billion, as they currently are, or $4 billion or $8 billion or $12 billion of catastrophic risk. Any of those numbers is not just a noticeable fraction, but a substantial fraction of catastrophic risk.

Dr. WELDON. So you think the market could absorb the risk—more of the risk, substantially more?

Mr. BRYNJOLFSSON. Yes.

Dr. WELDON. But as I understand your testimony, and all of your testimony, the two principal stumbling blocks are the tax treatment and the nature of the market. It is very complicated to get into and there are a lot of people in the industry who do not have the expertise or the willingness to get acquainted with the complexity of this type of investment instrument.

Mr. OZIZMIR. Let me add a couple of things to what you said there. I would add that marginal cost is important. I mean, we discussed the fact that the risk-linked securities market is relatively small percentage. But in any market, I think the marginal cost is often what defines the overall price. So I think that we need to look at the growth of this market in the context of that.

The second thing that I would like to talk about is, we are talking about a lot of knowledge here from the point of view of investors. We at Swiss Re and many other participants in this market are really not focusing just on knowledge to the investors, but also to the potential sedants or the insurers who are using this product.

I think that that is something that also needs to grow as well. For example, there were some conversations here about the NAIC looking very carefully at how to define basis risk, when it is acceptable and when it is not. That is the same process that we and other insurers go through when they look at these parametric structures,

because since we are not able to sell indemnity risk into the capital markets as well for the obvious reasons of transparency and disclosure and objectivity, it is important that the knowledge is not just on the investor side, but also on the user side.

Dr. WELDON. I thank you, Madam Chairman.

Chairwoman KELLY. Thank you. Mr. Ozizmir, how do you relate the current situation with terrorism to the potential use of the risk-based securities? You mentioned terrorism before.

Mr. OZIZMIR. Yes. Our view at Swiss Re is that the critical element of this market is developing knowledge, objectivity and transparency in how transactions are structured. We feel that terrorism risk, even away from the securitization process, is not quantifiable.

So if it is not quantifiable in the traditional insurance and reinsurance market, we do not see anything in the near term that would permit the risk-linked securities market to transfer risk in the terrorism market.

Mr. MCGHEE. May I just add to that?

Chairwoman KELLY. By all means.

Mr. MCGHEE. I would say that there are a lot of very smart people with lots of initials after their names, like Ph.D., that are working very hard on exactly this problem of terrorism. There are modeling firms that have all recently come out with early, early issues of models that try to assess the probability of loss of terror attacks.

If those models were to become generally accepted, and we believe this will take some time, then it is possible, we think, that with time securitization of terror risk is a possibility. But, I should stress, this is very early days in this marketplace, though there are many people who are working very hard on this issue.

Chairwoman KELLY. Thank you, Mr. McGhee. I really appreciate that. We have worked very hard on terrorism and trying to address the situation, and both of you have shed some light that may help us along our way, so thank you very much.

I would like to go back to you, Mr. Ozizmir. According to the Institutional Investor last month, several European insurers are now seriously considering securitization as an alternative source of capital to fund their underwriting capacity. How can reinsurers take advantage of their unique ability to analyze high-level risk and work with the securities market and investors to bring confidence into these deals? What do you think Congress can do to facilitate this?

Mr. OZIZMIR. I will start with the whole issue, and go back to the initial issue of knowledge. It is critical that there is transparency in the transactions. I think it has been mentioned that bringing the transactions on-shore has various benefits, and we do agree with that. That said, we do believe that the transactions, the parametric structures that are currently being done are adequate from a transparency point of view in terms of how the risks are modeled and how the risks are disclosed.

The critical thing that a reinsurance company needs to do if they decide to access the capital markets is recognize a few things. One is that since this is a new market, the cost of getting coverage in the capital markets is high. In some cases, it is higher than traditional reinsurance; in some cases, it is about the same; and in some cases slightly lower. But the fact is, it is not a lower cost of cov-

erage. So a reinsurance company needs to make sure that they control and manage the basis risk.

This is a very, very critical issue. The investors, again, are going to accept transparent modeled objective structures. The reinsurer or the insurer is going to have their own book of business which may change in a multi-year period of time. For example, if you do a four-year structure, much of the reinsurance or insurance you have written is a one-year contract. So a reinsurer will have to anticipate how their book of business may change over time.

They are also going to have to look very carefully at where their risk is. We talk about category four hurricanes, category five hurricanes. In the case of Europe, it would be what would be called a European windstorm would be the predominant risk, such as Lothar that hit France a few years ago. So the reinsurer needs to, with the help of the modeling agencies and their own internal analytics, determine at a certain wind speed what their losses would be. This is a very, very complicated process, but something that needs to be done.

Chairwoman KELLY. I would like to thank you.

I would like to, Mr. Ozizmir, ask you another question. In your testimony, you state, reinsurance remains readily available. It seems to me that any discussion that we have here on reinsurance capacity ought to cover catastrophic events, ought to include a discussion of the price of covering catastrophic events because price may mean that reinsurance is not readily available. So I would like to have you discuss that a bit.

Mr. OZIZMIR. Okay. One of the reasons we do support the development of this market is we agree that prices have increased over the last few years and in spite of the fact that they increased from a relatively low level in the late 1990s, clearly capacity coming into the market will reduce the cost.

We think that that is good for primarily all constituents here in terms of having greater coverage. That said, the capital markets, as I said, are not providing distinctly different prices than what is available in the reinsurance markets right now.

Chairwoman KELLY. We may give you a written question to follow-up on that. I am out of time. Dr. Weldon, have you any other questions?

Dr. WELDON. Yes, I just have one more follow-up question. Mr. Brynjolfsson, let's go back to Miami, category five comes over the city. Does the catastrophic bonds that we have been talking about that cover that type of event do anything to help the people who are living, say, 20 miles south or 20 miles north of the city?

Mr. BRYNJOLFSSON. Sure. The example I gave is actually not specifically part of the contractual nature of the bond. The way the contract that is written for the specific bond that I was describing is that if USAA lost more than $1 billion, then the cat bond would in effect indemnify that insurance company for losses of greater than $1 billion.

The firms that I alluded to that do the modeling of catastrophic risks were able to quantify for us relatively objectively that $1 billion was high enough a threshold that the insurance company itself could cover those losses out of the first $1 billion of coverage through its general operating reserves and the like, and that in

order to have more than $1 billion of losses, either one large hurricane hitting a metropolitan area would have to occur, or alternately a smaller hurricane that hit successively three or four or five communities would have to occur.

For example, if a hurricane went up the coast, it could trigger $1 billion or more in losses. So there is no exclusion of any particular homeowner or anything like that. It is more just a function of how the industry works. Now, more generally, obviously the way an insurance company works is they try to write as many premiums as they can without exceeding certain capital constraints. Any cat bond that helps relieve their capital usage frees up capital to underwrite in other areas.

The capital markets are, I believe, best equipped to protect against super-catastrophic risks, meaning those one in one-hundred year events that I alluded to, and also relatively generic risks which I as a bond manager can contemplate, understand and have modeling firms advise me on. Very specific risks relating to the intricacies of workman's compensation or intricacies of business liability or for that matter even intricacies of terrorism coverage, at this stage I am not ready to contemplate. I am not saying that I would never contemplate anything along those lines. However, I do know on the other hand that I am comfortable contemplating straightforward simple risks like massive hurricanes and massive earthquakes.

Dr. WELDON. Go ahead.

Mr. MCGHEE. I was just going to add to that if I could. It touches back on your question about the size of the cat bond market relative to reinsurance, and it plays in here as well. As Mr. Brynjolfsson said, the cat bond market really plays in that sort of super-cat layer, that area in excess of the one in one hundred year return period.

One of the things that my firm has done is that we have been looking at the size of risk transfer capacity bought from the cat bond market and from the reinsurance market in this very remote area. We believe that there is a relatively small amount purchased from reinsurance for those super-cat events. It may be as little as $3 billion in total capacity. If that is the case, then catastrophe bonds may represent about 40 percent of the overall risk transfer market in that segment right now. It is a little-understood fact that cat bonds are a very important part of this super-cat marketplace, We think cat bonds could actually add significantly to the synthetic capital that is being created for insurance companies and reinsurance companies that can be then used to provide more coverage to their policyholders.

Dr. WELDON. I just want to make sure I come away from this hearing properly understanding this issue. It is a very complex issue. We have taken testimony that there is a capacity crisis and then we have taken testimony that there is plenty of capacity out there. Could you, Mr. Brynjolfsson or Mr. McGhee, answer that question for me?

Mr. BRYNJOLFSSON. Sure. I would be happy to address that. In the area of super-catastrophic risk in the area of hurricane risk and the area of earthquake risk, there clearly is not a capacity crisis. We have been looking to buy catastrophe bonds at spreads that

were previously available that are no longer being offered to us because to some extent there is capacity for those types of risk.

On the other hand, and I do not want to get excessively anecdotal, but when it comes to very specific types of risk that I am not involved in at PIMCO, then there clearly are problems, even in the area of, well, workman's comp, other things that were directly brought to the industry's attention by the disasters at the World Trade Center.

For example, the idea that 6,000 people could simultaneously have their lives put at risk was not something that typical workman's comp policies had contemplated or life insurance policies prior to 9-11. My understanding is that air frame and aircraft insurance similarly has become almost unavailable.

Mr. MCGHEE. May I add to that?

Dr. WELDON. Yes.

Mr. MCGHEE. I think you might not characterize it as a crisis, but it may be a crisis that people do not yet recognize as a crisis, if I can put it that way. In California, only 17 percent of homeowners have earthquake insurance. In Florida, as you know, there is a state-sponsored government entity, the Florida Hurricane Cat Fund, that exists because of the need to intercede and provide some quasi-governmental support to make homeowners insurance for hurricanes more readily and cost-effectively available.

So our sense is that there could be much more insurance being sold to consumers were it available at a competitive cost. We think that this marketplace could help encourage that—perhaps not solve all the problems, but could encourage the availability of more and cheaper capacity.

Chairwoman KELLY. Mr. Ozizmir, I would like you to answer that question as well, if you do not mind.

Mr. OZIZMIR. Okay. In terms of relating capacity to the impact of the risk-linked securities market, I would like to basically agree with what my panel members said. One thing I would highlight here is that again we are talking about quantifiable, objective and transparent risks.

Now, for that reason, if you look at the actual secondary market trading or the spread of new issues on California earthquake, Florida windstorm, European windstorm and even Tokyo earthquake risks in the market, and if you observe that the trading levels over the last few years, what you will see is that rates have been pretty much stable, except for the fourth quarter of last year, after September 11.

What that tells me is that in the types of risks that can be specifically addressed by the risk-linked securities market, there are capacity issues possibly, but it is not showing up in the trading of those instruments. Where we are seeing in general the greatest price increases are the non-quantifiable risks like terrorism, if it is even available; hull insurance and other things like that for planes—those have increased dramatically. So again, in the risks that this market can address, we are not seeing as significant an increase in price or as great a dearth of capacity.

Chairwoman KELLY. Thank you. Mr. Inslee, do you have any questions for this panel?

Mr. INSLEE. I do. This may be on the periphery of this hearing, but I wanted to ask about the sort of general assessment of risk for weather-related losses, and whether the global warming phenomena is causing any concern, any thoughts in the industry in general.

We see these relatively rapid loss patterns from weather-related events, and I just wonder, is the industry concerned about global warming and how it affects catastrophic losses in that regard? Or is that something you all can comment on? That is a question to anyone who cares to—if anyone wants to tackle it.

Mr. MCGHEE. Well, I can jump in there. It is absolutely clear that the reinsurance industry is thinking about just these issues, and certain large reinsurance companies in Europe have in fact done some studies with respect to the impact of global warming on the incidence of natural catastrophe and the severity of natural catastrophe.

I do not think anybody has drawn a firm conclusion as to what the result will be, but certainly because the reinsurance and insurance industries, they take the hits when they happen, are concerned about this and trying to assess the potential risks associated with global warming.

Mr. INSLEE. Thank you. Thank you, Madam Chair.

Chairwoman KELLY. Thank you, Mr. Inslee. If there are no further questions, the chair notes that some members may have additional questions they may wish to submit in writing. Without objection, the hearing record will remain open for 30 days for members to submit written questions to these witnesses and place their responses in the record.

This panel is excused with the committee's great thanks and great appreciation for your time. This hearing is adjourned.

[Whereupon, at 3:48 p.m., the subcommittee was adjourned.]

A P P E N D I X

October 8, 2002

Opening Statement of Chairwoman Sue Kelly Financial Services Subcommittee on Oversight and Investigations Hearing on: "Catastrophe Bonds: Spreading Risk"

October 8, 2002; 2:00 p.m. 2128 Rayburn

Let me first say welcome to what will likely be the last hearing in the Financial Services Committee for the 107th Congress. It would be an understatement to say that this committee has been busy. I know our staff agrees. Let me take this opportunity to publicly thank the remarkable and professional staff of this Financial Services Committee for their work this year.

The topic of discussion today is a new slant on an old problem. We only have to go back one Congress in the old Banking Committee to recall the numerous hours spent debating the creation of insurance capacity for disaster prone areas. Individuals can disagree about the nature of the solution, the fact still remains that increasing capacity in our insurance markets is incredibly important.

Whether you're a disaster prone state like Florida or California, or from a state like mine with terrorist-targeted properties, it remains to be seen how much in the way of accumulated losses the private insurance and reinsurance market can absorb before the entire market is put at risk. As we see today, large insurers and reinsurers are being downgraded by rating agencies, and markets continue to harden.

When we last looked at the issue of natural disaster exposures, there was mention made of using the capital markets perhaps as a way to spread risk beyond the traditional insurance markets. Let me quote from 1999 testimony in front of this committee, "the potential capacity from the capital markets should not be ignored or underestimated during consideration of [what was then Rick Lazio's federal disaster reinsurance bill]. While still in its infancy, a lot of resources are being directed by capital markets intermediaries to encourage the development of the market." And further testimony stated: "the development [of this risk-linked securities market] could revolutionize catastrophe insurance funding and greatly expand the capacity of the US insurance market…" The private capital markets made sense then and probably make even more sense now.

Last year Chairman Oxley requested the Government Accounting Office (GAO) look at the use of catastrophe bonds and their track record to date. Some in the private sector suggest that what was once touted as the next big financing instrument never really took off in the market as anticipated. The committee asked the GAO to find out exactly why that was. Specifically, the committee inquired if it was a structural problem, meaning these instruments are too complicated or produce prohibitive transaction costs; or if it was because the market didn't understand how to evaluate their underlying risk; or, if it was because the traditional insurance market was soft and there wasn't a demonstrated need for new sources of capital.

GAO appears before us today to discuss its findings, with an emphasis on the barriers and hurdles these instruments face. The team that put this report together is to be commended for their work in taking such a complicated topic and really boiling it down into its essential nuts and bolts. The committee appreciates the GAO's work in this area and its cooperation with committee staff in drawing its conclusions.

Before I close, let me quickly make two points. First, this committee is looking to facilitate capacity creation in the insurance marketplace. In this case, we are examining catastrophe bonds. This is not to suggest that a booming market for these bonds should replace or be an alternative to traditional insurance financing such as risk spreading by way of reinsurance. Second, in no way should anyone leave this room thinking the Financial Services Committee is creating a new class of government bond or government-backed security. This committee is simply looking at ways to possibly remove barriers that will bring about greater acceptance of an instrument that already exists in the marketplace today.

Opening Statement
Chairman Michael G. Oxley
Committee on Financial Services

Subcommittee on Oversight and Investigations
"Catastrophe Bonds: Spreading Risk"
October 8, 2002

I would like to thank Chairwoman Kelly for holding this important hearing on the use of capital markets to expand insurance capacity. The relevance and timeliness of this topic cannot be overstated. Uncertainty facing the market grows every day as a result of our terrorism losses. Compound that with the sobering thought of successive major catastrophic events hitting our shores, and it is not unthinkable that traditional risk sharing mechanisms could be paralyzed.

As Chairwoman Kelly stated, the Committee has asked the GAO to look at the viability of risk-linked securities as a way to increase insurance capacity. Catastrophe bonds, in particular, provide a unique way for tapping the trillions of dollars of investment capacity in the capital markets. And because the risk associated with these instruments is generally uncorrelated to financial market volatility, they can be particularly attractive for fund managers looking for diversification.

We recognize that often there are frictions in the market that make one instrument preferable to another. Sometimes, those impediments are the result of well intended regulatory regimes. The GAO has identified for the Committee some of the limitations that cat bonds face, and we look forward to any recommendations they may have to address them.

Again, with investment income so severely strained and traditional reinsurance markets hardened after 9-11, now is the time to really examine all options to help supplement the capacity of the industry. The market has shown resilience in the past. In time, it will recapitalize. In the meantime, I think it is incumbent upon us, working together with private market participants, to look for safety valves to help ease that pressure. As with most things in life, timing is everything. We are one mega-catastrophe away from seeing unprecedented market disruption.

Terrorism insurance legislation remains my top priority as this session draws to a close. However, we also face disasters that are not manmade. Just ask my friend Chairman Baker who I am sure breathed a sigh of relief after Hurricane Lili inflicted far less damage than had been expected.

I commend the Chairwoman for her work on this issue and for putting together this timely hearing. We receive today's testimony with an eye toward potential action next Congress on the issue. It appears we will be a very busy Committee again next year.

I thank the Chair and yield back the balance of my time.

Statement of

John Brynjolfsson
Executive Vice President, PIMCO

On Catastrophe Bonds

Submitted to the Subcommittee on Oversight and Investigations
Committee on Financial Services

U.S. House of Representatives

October 8, 2002

Mr. Brynjolfsson

Mr. Brynjolfsson is employed by PIMCO, an investment advisor that actively manages over $270 billion of primarily fixed income investments on behalf of U.S. and global pension plans, mutual funds, central banks and other entities.

He is an Executive Vice President, Portfolio Manager and manager of the PIMCO Real Return Bond Fund. He directly oversees over $9 billion in client assets. In addition, he is PIMCO's risk-linked securities specialist. Mr. Brynjolfsson joined the firm 13 years ago. He holds a bachelor's degree in Physics and Mathematics from Columbia College, 1986, and a master's in Finance and Economics from the MIT Sloan School of Management, 1989.

PIMCO and Risk-Linked Securities

PIMCO has been investing in Risk-Linked Securities since June 1997. Its substantial presence in this market is a result of its ability and appetite to buy Risk-Linked Securities tactically on behalf of clients who have authorized it to invest in such securities. Typically allocations to these client accounts are made in very small percentages, targeted at less than 1% per peril, across a very large base of approximately $100 billion of assets authorized to invest in Risk-Linked Securities. This results in very substantial potential capacity of $1 billion per peril. Currently PIMCO has $375 million invested in risk-linked securities across various perils, including Florida Wind and California Quake.

Committee on Financial Services, John Brynjolfsson
October 8, 2002, Risk-Linked Securities Hearing

Introduction and Recommendation

Madam Chair and members of the subcommittee, I welcome this opportunity to share my experiences, insights, expertise and recommendations with the Subcommittee on Oversight and Investigations. This testimony is offered in my capacity as an individual with extensive experience relating to Risk-Linked Securities, and not in my official capacity as an officer of PIMCO.

I believe that the Risk-Linked Securities market holds great promise for your constituents, and our nation more generally. I therefore am strongly supportive of your efforts to foster the unfettered development of this market.

Risk-Linked Disclosure

Of course, there is no such thing as a healthy market without full disclosure, so I would like to begin my testimony by sharing with the members here the disclosure PIMCO provides to its investors regarding Risk-Linked Securities, or what I refer to as Event-Linked bonds.

Please do not be startled. Like investors, I want each of you to be aware of the risks of event-linked bonds.

"Each Fund (except the Money market Fund) may invest in 'event-linked bonds', which are fixed income securities for which the return of principal and payment of interest is contingent on the non-occurrence of a specific 'trigger' event, such as a hurricane, earthquake, or other physical or weather-related phenomenon. Some event-linked bonds are commonly referred to as 'catastrophe bonds.' If a trigger event occurs, a Fund may lose a portion or all of its principal invested in the bond. Event-linked bonds often provide for an extension of maturity to process and audit loss claims where a trigger event has, or possibly has, occurred. An extension of maturity may increase volatility. Event-linked bonds may also expose the Fund to certain unanticipated risks including credit risk, adverse regulatory or jurisdictional interpretations, and adverse tax consequences. Event-linked bonds may also be subject to liquidity risk."

Questions

Mr. Tom McCrocklin forwarded me six questions. Committee members might be interested in my answers to these questions.

Question 1: What aspect of catastrophe bonds are attractive to investors?

Risk-Linked Securities can provide PIMCO with a handsome yield in exchange for absorbing a small amount of risk. There is no need to make this too complicated so I'll just give you an example.

Committee on Financial Services, John Brynjolfsson
October 8, 2002, Risk-Linked Securities Hearing

Five years ago, in 1997, and every year since, PIMCO has participated in a transaction known as Residential Reinsurance. This Risk-Linked Security allowed USAA, one of the nation's largest insurers of military personnel, to cede $400 million of super-catastrophic hurricane risk stretching from Texas to Maine to the capital markets, for a period of 1 year covering the 1997 hurricane season. PIMCO purchased 17% of that transaction, representing $69 million of catastrophic risk.

For each $100 I invested I received almost $5.76 plus interest. Now of course, part of the reason I am sitting here is because there were not any major catastrophic wind events in 1996. However, more seriously, PIMCO was careful to quantify what risks of this transaction.

In particular, the Risk-Linked Security I bought was only exposed to the most catastrophic of hurricanes. The legal definition of this risk was of course detailed, but an example would be a Category 5 Hurricane making landfall and passing directly over Miami, where a large number of retired and active military personnel reside.

In contrast, a category 4 Hurricane passing 20 miles south of Miami, as Hurricane Andrew did in 1993, would not have triggered a loss, despite $23 billion of industry losses.

In the case of Residential Reinsurance, sophisticated third party risk modeling entities confirmed our analysis of the risk, and in fact quantified the risk of loss on the USAA bonds as less than once in one hundred years on average.

Question 2: What factors have limited your investment in catastrophe bonds?

PIMCO's involvement in the Risk-Linked Securities market has been very substantial, perhaps more substantial than any other single capital markets investor.

As an investment manager, I do face some inevitable, and in some cases appropriate limits. Prudence and my fiduciary duty is first and foremost in my mind at all times, and appropriately restricts me from haphazardly investing large percentages of clients' "generic" bond mandates in Risk-Linked Securities. Other limits include restrictions on issue, issuer and industry concentrations. Also, I strive to comply with an internally imposed goal of no more than 1% exposure to any single peril.

However market development among my competitors would have ancillary benefits for us, and I support such development.

PIMCO and its competitors will mold what could legally be defined as standards of practice in the industry. PIMCO is known as a successful innovator. However, despite extensive and explicit disclosure, we are also at risk of becoming a lightning rod for criticism upon the first loss-making event in the Risk-Linked Securities market. Therefore, we have employed a cadre of attorneys and risk assessment specialists and

have worked closely with clients, regulators, investment bankers and reinsurance companies to develop this market.

Of course, bringing competitors into the market is primarily the role of investment banks that distribute Risk-Linked Securities to the capital markets. However, in order to facilitate their efforts, I have personally traveled around the world. I have even gone as far as presenting to groups of my competitors at conferences hosted by, for example, my co-panelist the Bond Market Association.

Question 3: Discuss the appropriateness or suitability of catastrophe bonds for individual investors or mutual funds that would be purchased by individual investors?

The Risk-Linked Securities Market is by no means appropriate for the direct participation of anyone except the most sophisticated investor. Generally all Risk-Linked Securities issued in the U.S. have been issued under the framework of Regulation 144A that limits participation to "Qualified Professional Asset Managers."

Individuals can, and do, however, appropriately access the Risk-Linked Securities markets, in very small doses, through broadly diversified mutual funds managed by competent professionals. I would put investors in the mutual funds that I manage in this category. For example the PIMCO Real Return Fund holds over $6 billion in assets, and includes perhaps $100 million of catastrophe bonds.

I have a number of credentials that enable me to contribute to the process of evaluating Risk-Linked Bonds for PIMCO. I have undergraduate degrees in both Physics and Mathematics from Columbia College. In addition, I studied under the direct attention of two Nobel prize-winning, and a number of other gifted finance theorists at MIT's historic department. Complementing my theoretical training, I have now worked under the direct attention of the legendary fixed income investor Bill Gross for 13 years. In this capacity I have directly witnessed, from what I might call the eye of the storm, many of the largest capital market events of the last decade.

Still, however, I would not contemplate participating in the Catastrophe Bond market as an isolated individual. Without my colleagues, many of whom have PhD's in the physical sciences or capital market experience comparable to my own, without the staff of in-house and outside attorneys and other professionals supporting my efforts, without connections in the investment banking and reinsurance industry, I would be unqualified to invest in RLS.

Of course, one of the most important factors that any mutual fund manager would have to take into account in deciding whether or not to invest in risk-linked securities is whether they possess sufficient expertise to analyze the risks of those securities, in order to be able to weigh the risks versus the returns. As I indicated, my colleagues and I at PIMCO do have the necessary expertise. However, some fund managers may well conclude that the costs of hiring or training personnel with the requisite expertise would not be justified, given the specialized nature of these securities.

Committee on Financial Services, John Brynjolfsson
October 8, 2002, Risk-Linked Securities Hearing

Question 4: What is your prognosis for the future of risk-linked securities including catastrophe bonds and options?

I would suggest the Risk-Linked Securities market is currently struggling to get any notice whatsoever. This is temporary.

In particular, at this very moment the capital markets are in turmoil. Major airlines, automobile companies, energy companies, finance companies and others are struggling to get new financing, or even roll-over their existing debt that is coming due. As some of you may know, even FNMA's debt has recently been experiencing a widening of its spread to benchmarks. Meanwhile investors fear that capital already lent may not be repaid and are hesitant to lend more regardless of the tempting high levels of current corporate bond yields.

Given the compelling advantages of securitizing catastrophic event risk, and efficiently distributing these securities through capital market channels, I am highly confident that the Risk-Linked Securities market will continue, and perhaps accelerate the substantial growth it has experienced over the past 5 years, despite the current turmoil in the corporate bond market.

Question 5 What factor would accelerate the growth of risk-linked securities?

Ultimately it is incumbent upon capital market professionals to educate themselves and appreciate the fruits that Risk-Linked Securities have to offer their constituents. However, in the meantime, I would suggest this committee can best serve its constituents firstly by not standing in the way of market evolution, and secondly by promoting market development through a streamlining of regulation, taxation and legal liability associated with participating in the Risk-Linked Securities market. Educational efforts such as today's hearing will go a long way towards promoting market efficiency.

Question 6: What factor would discourage the use of risk-linked securities?

Obviously the number one concern about investing in Risk-Linked Bonds is, and should be, evaluating the risk of disasters occurring. Unfortunately I believe it is beyond the authority of this committee to legislate away Hurricanes, Earthquakes and other disasters. However, more seriously, another risk relates to potential losses due to ambiguous or adverse regulatory, tax or fiduciary treatment. Certainly it is healthy for us to be careful and fully and explicitly disclose to investors the risk of investing in Event-Linked bonds. However, that fear should not be overwhelming, and for example, should not be so overwhelming as to exclude my competitors from self-assuredly entering the market.

Beneficiaries

Before I conclude allow me to more concretely and specifically highlight for you how I think the development of the Risk-Linked Securities market will directly or indirectly impact your constituents

Firstly, the Risk-Linked Securities market has the potential to substantially and dramatically increase the capacity and lower the cost of capacity in the reinsurance market. This is particularly true in the case of capacity relating to "Super Catastrophic Risks" those "once in a hundred year" events that inevitably occur, and fill the pages of "Life" magazine and the like. Increasing this capacity frees up the limited capacity of reinsurance companies to address more complex risks, for example, risks associated with terrorism. Ultimately of course this benefits consumers, both individuals and small businesses.

Your constituents may benefit a second time when they have an opportunity to indirectly participate in the premiums the insurance industry garners through their pension-plans, mutual funds and other investment vehicles managed by Qualified Professional Investors, under Regulation 144A.

Such pooling of individual catastrophic risk and premiums across society very broadly is of course the essence of the concept of a mutual insurance company. In principal it extends much more broadly to the whole insurance industry through the RLS market.

You may wonder whether anyone is hurt by development of this market. Perhaps, however, I don't know whom. I believe the RLS market is one of those elusive, but much talked about, win-win situations that can make the world a better place. For example, the Risk-Linked Securities market operates strictly at the wholesale level, so local insurance agents and primary insurance markets are helped, and will likely appreciate the lower wholesale premiums they will consequently have access to. Reinsurers likewise, seem to welcome the off-loading of capacity, particularly in those types of risk that are most difficult to diversify and most catastrophic.

One last, yet often maligned constituent is the IRS, whose revenues have the potential to benefit from the development of a robust, RLS market. Whether Special Purpose Reinsurance Vehicles are domiciled on-shore, or offshore, premiums traditionally earned by distantly domiciled insurance companies will begin to be earned instead by tax paying, mutual fund shareholders and pensioners who are receiving or accruing the income.

Conclusion

I am strongly supportive of any efforts this committee may undertake to lower barriers to development of the Risk-Linked Securities Market. In addition, I am strongly supportive of any efforts to encourage understanding and foster prudent use of Risk-Linked Securities. I support efforts to enhance market efficiency by promoting increased

transparency and risk disclosure. I am supportive of efforts to streamline regulation, reduce taxation, and enable on-shore domiciling of Special Purpose Reinsurance Vehicles. I am supportive of efforts to standardize, unify, rationalize, and codify the fragmented nature of State Insurance Regulatory involvement of Risk-Linked Securities markets. I am supportive of restrictions that limit use of Risk-Linked Securities to "Qualified Purchasers" who have the ability to analyze the complexity of Risk-Linked Securities and the wherewithal to suffer losses. I am supportive of efforts that solidify the contractual nature of Risk-Linked Securities and eliminate legal technicalities, or legal exceptions, as a source of risk for those who are ceding or receiving premiums.

Thank you for your interest. I am, of course available this afternoon, to answer any questions you may have.

Full Authority Management Style

EVENT-LINKED BONDS

Overview

Event-linked bonds allow insurance companies to sell some of their event risk (risk of insured damage from natural disasters) to investors through the financial markets. Traditionally, insurance risk has been bought and sold by reinsurance companies. However, the development of quantitative techniques to effectively model natural disasters as well as an increased understanding of these risks by investors has led to the emergence of a market that allows insurance companies to sell these risks to investors such as PIMCO. Event-linked bonds have excellent diversification characteristics and pay relatively high yields.

What are the Risks in Event-linked Bonds?

Event-linked bonds have special provisions requiring investors to forgive or defer some or all payments of interest or principal if insured losses from a catastrophic event surpass an agreed-upon amount, or loss limit. A catastrophic event is a low-probability natural disaster, such as an earthquake, hurricane, or flood which causes severe property damage. The loss limit associated with such events is usually expressed in terms of a dollar level of losses due to a specific type of natural disaster in a specific region and, sometimes, during one or more specific seasons. For example, a hurricane in Florida must result in insurance claims of more than $1 billion to a specific insurance provider (not in total) to trigger a loss of principal. The loss limit can also be expressed in terms of a dollar index of catastrophic losses for the industry, the two most popular of such indices being those developed by Property Claims Service (PCS) and Guy Carpenter. Only events that exceed or "trigger" the loss limit and that occur prior to maturity are considered loss events for the bonds. If no event occurs, the bonds pay coupons and return principal the way other debt securities do.

Event-linked bonds have excellent diversification characteristics and pay relatively high yields.

When a natural disaster does occur, triggering costs above the loss limit, the insurer can pay claims with the bond proceeds that otherwise would have gone back to investors. In other words, the insurer borrows money to increase its reserves that are used to pay out claims in the case of a natural disaster.

WHY INVEST IN EVENT-LINKED BONDS?

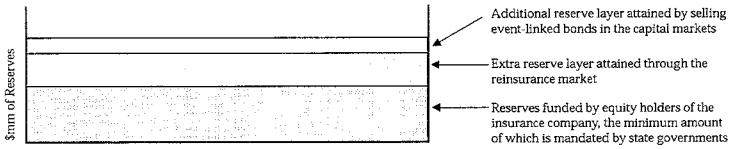
Event-linked bonds increase returns per unit of volatility by adding diversification to a larger portfolio. These bonds have excellent diversification characteristics because they have little or no correlation to other financial instruments. Because of the low-frequency, high-severity risk, diversification benefits are significant with event-linked bonds. In addition, event-linked bonds offer high returns compared to similarly rated corporate bonds. To date, no event-linked bond has suffered an actual loss of principal.

Structure

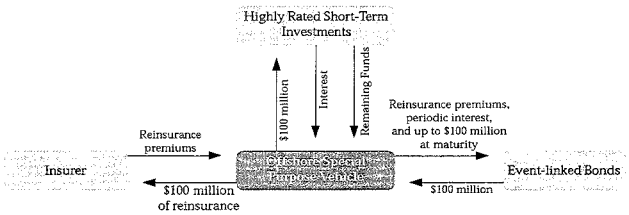
As shown in the chart below, insurance companies can add reserves (remove insurance risk) by buying reinsurance from another insurer and by selling risk in the form of an investment security. Event-linked bonds perform the latter function of transferring risk to investors through **financing transactions** or **risk-transfer transactions**. In a **financing transaction**, investors exchange cash for bonds only if an event occurs causing losses greater than the loss limit. These bonds must be repaid over time. Thus, the investor loses no principal, but risks the opportunity cost of having to deliver cash when an event occurs.

More common, however, is the **risk-transfer transaction** in which the investor purchases bonds with pre-determined event-linked payments before an event occurs. Usually, a special-purpose vehicle or trust acts as the reinsurer by issuing debt in the capital markets and providing a reinsurance policy to the insurer. The proceeds from the sale of the securities are held in a trust and invested in highly rated, short-term investments such as T-bills. These trust funds are available to cover claims only if a trigger event occurs causing losses greater than the loss limit. Then, the short-term investments in the trust are sold and the T-bill collateral that would otherwise have gone to the investors is used to pay the insurance claims. Thus, the investor may lose

RESERVE LAYERS



SAMPLE RISK-TRANSFER TRANSACTION STRUCTURE – $100 MILLION OF EVENT-LINKED BONDS



principal with an event-linked bond. If there is no event loss, the trust pays the initial premium received from the insurance company, along with interest, to investors and returns full principal at maturity.

Event-linked bonds can be designed to cover a specific layer of loss in an insurer's book of business, such as those insured losses over $1 billion, but under $1.5 billion. Low layers are those that are triggered frequently, while high layers are those that occur relatively infrequently since there is only a small probability that losses would exceed the higher loss limit. Most event-linked bond transactions are offered at relatively high layers of protection, which translates into low probabilities of loss for investors. Thus, event-linked bonds provide protection for low-frequency, high-severity losses. Defaults are infrequent but recoveries are expected to be low.

Pricing

The pricing of event-linked bonds is based on probabilities derived from historical data on storms, earthquakes, etc. In most cases, modeling firms, or actuaries, compare data on the natural disasters that are being covered in order to develop the probability of an event and the expected loss. The ratings agencies perform similar analysis for each event-linked bond and assign a rating that reflects the probability of loss. This rating is conceptually the same as a rating on a corporate bond because the rating indicates the probability of loss of principal based on historical experience. For example, BB-rated corporate bonds (high yield) and BB-rated event-linked bonds both have a probability of loss around one percent, although the underlying risk exposures are very different. In spite of this, event-linked bonds offer a significant increase in yield over similarly rated corporate bonds.

Market Liquidity

In the four years prior to 2000, $3.6 billion of event-linked bonds were issued, primarily by insurers and reinsurers seeking protection against losses from natural disasters. Accordingly, event-linked bonds are sometimes referred to as catastrophe or "CAT" bonds. According to Goldman, Sachs & Co., the average secondary volume for these bonds is 40 percent of primary issuance. As issuance of this type of security continues to pick up, the secondary market will become more liquid. In the first half of 2000, there was $350 million of such issuance with several transactions in the pipeline. Most of the risks securitized so far have been natural disaster risks, but motor risk, life insurance risk and credit risk also have been taken to the capital markets.

Past performance is no guarantee of future results.

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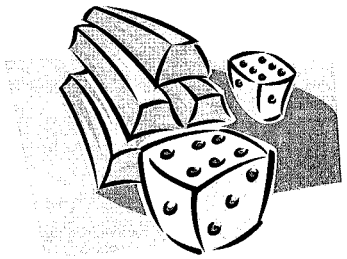
Event-Linked Bonds

John Brynjolfsson

March 21, 2002



Biographical Information

Mr. Brynjolfsson is an Executive Vice President, Portfolio Manager and manager of the PIMCO Real Return Bond Fund. He joined the PIMCO 12 years ago, having been previously associated with Charles River Associates and JP Morgan Securities. He has 15 years of investment experience, and holds a bachelor's degree in Physics and Mathematics from Columbia College and a master's in Finance and Economics from the MIT Sloan School of Management.

Investment Considerations

Event-Linked Bonds are Similar to High Yield Corporate Bonds

Both:

- Earn a Substantial Excess Yield
- Experience Occasional Principal Loss
- Demand Expert Analysis

Investment Considerations

Event-Linked Bonds	High Yield Corporates
♦Scientific Equipment	♦Financial Reporting
♦Geologic and Meteorological Events	♦Economic and Managerial Accidents
♦Excellent Internal and External Diversification	♦Little Diversification

Client Considerations

"Sensitivity"

+

"Disclosure"

+

"Regulations"

Value: LIBOR SPREAD/EXPECTED LOSS

- 5X to 10X BB
- 10X + for BBB
- Single vs. Multi
- Region: Capacity and Familiarity

Simplicity + Clarity + Integrity

- Structure of Bond Issue
- Objectives of Ceding Insurer
- Macro- “Super Cat” Exposure

Structure + Legal

- Indemnity, Index, “Model”
- Collateral/Guarantees and Form of Trust

PIMCO's/Capital Market's Role:

- Super CAT

Client Education/Tactical Use

- PIMCO Funds Prospectus
- Written explicit Disclosure

Event-Linked Bonds--Disclosure

Each Fund (except the Money market Fund) may invest in "event-linked bonds", which are fixed income securities for which the return of principal and payment of interest is contingent on the non-occurrence of a specific "trigger" event, such as a hurricane, earthquake, or other physical or weather-related phenomenon. Some event-linked bonds are commonly referred to as "catastrophe bonds." If a trigger event occurs, a Fund may lose a portion or all of its principal invested in the bond. Event-linked bonds often provide for an extension of maturity to process and audit loss claims where a trigger event has, or possibly has, occurred. An extension of maturity may increase volatility. Event-linked bonds may also expose the Fund to certain unanticipated risks including credit risk, adverse regulatory or jurisdictional interpretations, and adverse tax consequences. Event-linked bonds may also be subject to liquidity risk.

United States General Accounting Office

GAO

Testimony

Before the Subcommittee on Oversight and Investigations, Committee on Financial Services, House of Representatives

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CATASTROPHE INSURANCE RISKS

The Role of Risk-Linked Securities

Statement of Davi M. D'Agostino,
Director, Financial Markets and Community Investment

GAO-03-195T

United States General Accounting Office October 2002

GAO
Accountability * Integrity * Reliability

Highlights

CATASTROPHE INSURANCE RISKS
The Role of Risk-Linked Securities

Highlights of GAO-03-195T, a testimony for the Subcommittee on Oversight and Investigations, House Committee on Financial Services

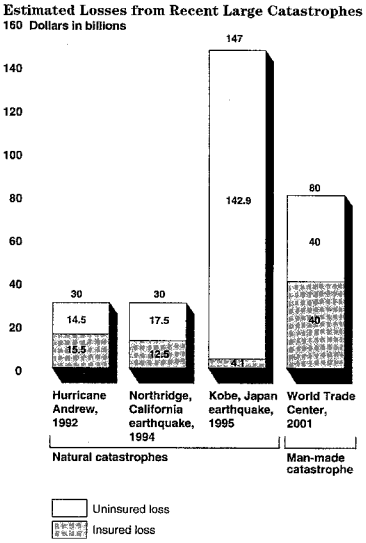
Why GAO Did This Study

Because of population growth, resulting real estate development, and rising real estate values in hazard-prone areas, our nation is increasingly exposed to higher property casualty losses—both insured and uninsured—from natural catastrophes than in the past. In the 1990s, a series of natural disasters, including Hurricane Andrew and the Northridge earthquake, raised questions about the adequacy of the insurance industry's financial capacity to cover large catastrophes without limiting coverage or raising premiums. Recognizing this greater exposure and responding to concerns about insurance market capacity, participants in the insurance industry and capital markets have developed new capital market instruments as an alternative to traditional property-casualty reinsurance, or insurance for insurers. GAO's objectives were to (1) describe catastrophe risk and how the insurance and capital markets provide coverage against such risks; (2) describe how risk-linked securities, particularly catastrophe bonds, are structured; and (3) analyze how key regulatory, accounting, tax, and investor issues might affect the use of risk-linked securities.

What GAO Found

Natural catastrophes are infrequent events that cause severe losses. More than 68 million Americans live in hurricane-vulnerable coastal areas, and 80 percent of Californians live near active earthquake faults. Insurance companies who write property-casualty policies in these high-risk areas try to spread the risks, traditionally through reinsurance. When reinsurance prices or availability became problematic in the 1990s, insurers turned to risk-linked securities as an alternative means to spread catastrophe risk. Most risk-linked securities are catastrophe bonds, which (1) have complicated structures, (2) are created offshore through special purpose entities, and (3) generally receive noninvestment-grade ratings. Key regulatory, accounting, tax, and investor issues pose challenges to expanding the use of risk-linked securities, and GAO discusses the advantages and disadvantages of potential changes.

Estimated Losses from Recent Large Catastrophes



Sources: Insurance Information Institute and other insurance industry sources.

The full testimony is available at www.gao.gov/cgi-bin/getrpt?GAO-03-195T. For additional information about the testimony, contact Davi D'Agostino (202-512-8678; dagostinod@gao.gov).

Madame Chairwoman and Members of the Subcommittee:

I am pleased to be here today to discuss the results of our work on the potential for risk-linked securities to address catastrophic risks arising from natural events such as hurricanes and earthquakes. Population growth, real estate development, and rising real estate values in hazard-prone areas increasingly expose our nation to higher losses—both insured and uninsured—from natural catastrophes than in the past. This exposure increases pressure on businesses; individuals; and federal, state, and local governments to assume ever-larger liabilities for losses associated with natural catastrophes. A series of natural disasters in the 1990s, including Hurricane Andrew and the Northridge earthquake, raised questions about the financial capacity of the insurance industry to cover large catastrophes without limiting coverage or substantially raising premiums, and called attention to ways of raising additional sources of capital to help cover catastrophe risk. Participants in the insurance industry and capital markets developed new capital market instruments, risk-linked securities, which both expand insurance and reinsurance capacity and provide an alternative to traditional property-casualty reinsurance. We were asked to analyze the role of risk-linked securities in the coverage of catastrophe risk and factors affecting their use.

Today I will talk about (1) what catastrophe risk is and how the insurance and capital markets provide coverage for such risks; (2) how risk-linked securities, particularly catastrophe bonds, are structured; and (3) how key regulatory, accounting, tax, and investor issues might affect the use of these securities. Our overall objective is to provide the Committee with information and perspectives to consider as it moves forward in this important and complex area. For a fuller discussion of these points, I refer you to our report entitled *Catastrophe Insurance Risks: The Role of Risk-Linked Securities and Factors Affecting Their Use* (GAO-02-941), which was released today at this hearing.

Even though we did not have statutory audit or access-to-records authority with respect to the involved private-sector entities, we obtained extensive documentary and testimonial evidence from various groups, including insurance and reinsurance companies, investment banks, investors, rating agencies, firms that develop models to analyze catastrophic risks, regulators, and academic experts. However, we were not able to verify the accuracy of data provided by these groups.

Our statement covers a number of issues affecting risk-linked securities, but we make no recommendations. While we have identified factors that

industry and capital markets experts believe might cause the use of risk-linked securities to expand or contract, it is difficult to predict the future use of these securities—either under current accounting, regulatory, and tax policies or under changed policies. We do not take a position on whether the increased use of risk-linked securities is beneficial or detrimental.

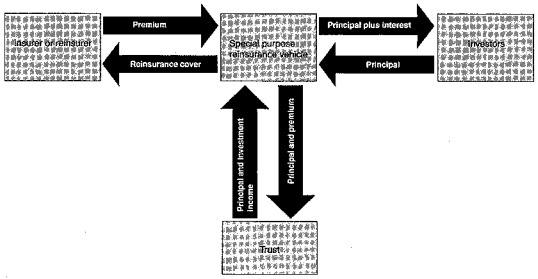
In summary:

Catastrophe risk is a global phenomenon and insurance and reinsurance companies with global operations often provide coverage. We focused on catastrophe risk in the United States. The map before you shows the geographic distribution of catastrophe risk in the United States and highlights areas that are the most likely to experience certain types of natural catastrophes. The characteristics of natural disasters prompt most insurers to limit the amount and type of catastrophe risk they hold. For example, property-casualty insurers with too many policies concentrated in California and Florida—states that are more subject to natural catastrophes—need ways to diversify and transfer that risk. One key way to transfer risk is through reinsurance. Traditional reinsurance provides indemnity-based coverage, which compensates part or all of an insurer's losses as they are incurred, and depends on well-developed business relationships between insurers and reinsurers, which facilitate relatively low transaction costs. However, in a situation involving extremely large or multiple catastrophic events, insurers might not have purchased sufficient reinsurance or reinsurers might not have sufficient capital to meet their existing obligations. Further, reinsurance capital is diminished after a catastrophic loss, and reinsurers might raise prices or limit the availability of future coverage. In the 1990s, the combination of two extremely costly disasters—Andrew and Northridge—and conditions in the reinsurance market helped spur the development of risk-linked securities and other alternatives to traditional reinsurance. The securities provided new access to national and international capital markets. Yet to date, risk-linked securities represent a small share—less than 0.5 percent—of worldwide catastrophe insurance, according to the Swiss Reinsurance Company.

We focused on catastrophe bonds because they currently comprise the largest share of risk-linked securities, which also include other

instruments such as options.[1] To develop a catastrophe bond, a sponsor, usually an insurance or reinsurance company, creates a special purpose reinsurance vehicle (SPRV) to provide reinsurance to the sponsor and to issue bonds to the securities market. SPRVs are similar in purpose to the special purpose entities that banks and others have used to securitize their loans. These special purpose entities "pass through" principal and interest from borrowers to investors. In contrast, SPRVs, which are typically located offshore for tax, regulatory, and legal advantages, receive payments in three forms (insurance premiums, interest, and principal), invest in Treasury securities and other highly rated securities, and pay investors in another form (interest). Figure 1 illustrates cash flows among the participants in a catastrophe bond.

Figure 1: Cash Flows for a Special Purpose Reinsurance Vehicle



Source: GAO.

The sponsoring insurance company enters into a reinsurance contract and pays reinsurance premiums to the SPRV to cover specified claims. The SPRV issues bonds or debt securities for purchase by investors. The catastrophe bond offering defines a catastrophe that would trigger a loss

[1]Catastrophe options were offered by the Chicago Board of Trade in 1995 and were delisted in 2000 due to lower-than-expected demand. The purchaser of a catastrophe option paid the seller a premium, and the seller provided the purchaser with a cash payment if an index measuring insurance industry catastrophe losses exceeded a certain level. If the catastrophe loss index remained below a specified level for the prescribed time period, the option expired worthless, and the seller kept the premium.

of investor principal and, if triggered, a formula to specify the compensation level from the investor to the SPRV. The SPRV is to hold the funds raised from the catastrophe bond offering in a trust in the form of Treasury securities and other highly rated assets. The SPRV deposits the payment from the investor as well as the premium from the company into the trust account. The premium paid by the SPRV sponsor and the investment income on the trust account provide the funding for the interest payments to investors and the costs of running the SPRV. If a predefined catastrophe occurs, principal that otherwise would be returned to the investors is used to fund the SPRV's payments to the insurer or sponsor. The investor's reward for taking this risk is a relatively high interest rate paid by the bonds.

Recently issued catastrophe bonds have been nonindemnity-based—that is, structured to make payments to the sponsor upon the verified occurrence of specified catastrophic events. Indemnity-based reinsurance coverage compensates insurers for part or all of their losses from insured claims.[2] Although insurers prefer indemnity-based coverage because reinsurance payments are directly linked to claims actually incurred, reinsurers face the risk of paying more if the insurer underwrites or selects risks poorly, or has poor claims-settlement practices. With an indemnity-based catastrophe bond, investors would have greater exposure to risks from poor underwriting and claims settlement practices because investors might not be able to monitor the insurer's behavior. As a result, investors prefer nonindemnity-based bonds because they are tied to an objective index or measure that is unrelated to the insurance company's management.

In addition to looking at the characteristics and coverage of catastrophe risk and the structure of risk-linked securities, we identified and analyzed regulatory, accounting, tax, and investor issues that might affect the use of risk-linked securities:

[2]Indemnity coverage specifies a simple relationship that is based on the insurer's actual incurred claims. For example, an insurer could contract with a reinsurer to cover half of all claims—up to $100 million in claims—from a hurricane over a specified time period in a certain geographic area. If a hurricane occurs where the insurer incurs $100 million or more in claims, the reinsurer would pay the insurer $50 million. In contrast, nonindemnity coverage specifies a specific event that triggers payment and payment formulas that are not directly related to the insurer's actual incurred claims.

- First, accounting treatment for risk transfers occurring through nonindemnity-based, risk-linked securities is a challenge for regulators. In traditional reinsurance—that is, indemnity-based—transactions, where an insurer is compensated for part or all of its losses from insured claims, the insurer gets credit on its balance sheet in the form of a deduction from liability for the risk transferred to the reinsurer and can reduce the amount of regulatory risk-based capital required. Credit for reinsurance is designed to ensure that a true transfer of risk has occurred and that the reinsurance company will be able to pay any claims. In nonindemnity transactions using catastrophe bonds, payments may be triggered by an index or independently measurable value, such as wind speed, and are not directly related to incurred claims. When a catastrophic event triggers a catastrophe bond, payment formulas determine the reduction of the investors' principal that will compensate the insurance company sponsor. As a result, it is difficult to value the true amount of risk transferred to determine credit for reinsurance. The National Association of Insurance Commissioners and interested insurance industry parties are considering revisions in the regulatory accounting treatment of risk transfer obtained through nonindemnity-based coverage. If insurance accounting standards were changed so that the value of the risk transfer could be accurately calculated and recognized as an offset to potential insurance losses, the insurer could get credit for reinsurance for risk transfers occurring through nonindemnity-based catastrophe bonds. Such changes, if adopted, could facilitate the use of risk-linked securities. However, it is important that credit for nonindemnity-based reinsurance accurately reflect the true risk transferred so that insurance company reporting on both risk evaluation and capital treatment properly reflects the risks retained.

- Second, the Financial Accounting Standards Board is proposing a new interpretation addressing consolidation of certain special purpose entities on a sponsor's balance sheet. Under current guidance, a sponsor could avoid consolidating an SPRV as a liability on its balance sheet if the SPRV has at least 3 percent independent equity capital investment. The proposal may increase the independent capital investment required for a sponsor to treat an SPRV as independent to 10 percent of total assets. The proposal also contemplates other tests for consolidation of certain special purpose entities. While the proposed guidance is intended to improve financial transparency in capital markets and stem potential abuses of special purpose entities, it could also increase the cost of issuing catastrophe bonds. If the proposed interpretation requires consolidation, sponsors might turn to risk-linked securities, such as catastrophe options, that do not require an SPRV.

- Third, insurance industry representatives are considering a legislative proposal to help expand the use of domestically issued, or onshore, catastrophe bonds. SPRVs are typically located offshore, in part, to avoid U.S. taxes. By allowing special "pass-through" tax treatment, the proposal would eliminate U.S. taxation at the SPRV level. The pass-through treatment would be similar to that already provided to Real Estate Mortgage Investment Conduits and Financial Asset Securitization Investment Trusts. To the extent that domestic SPRVs gained business at the expense of taxable entities, including reinsurance companies, the federal government could experience tax revenue losses. Expanded use of catastrophe bonds might occur with favorable implementing requirements, but such legislative actions might also create pressure from other industry sectors for similar tax treatment. Some elements of the insurance industry believe that any consideration of changes to the tax treatment of domestic SPRVs would have to take into account the taxation of domestic reinsurance companies. Specifically, the Reinsurance Association of America argues that if special tax treatment is provided to domestic SPRVs, they would operate under tax advantages not afforded to existing U.S. licensed and taxed reinsurance companies.

- Fourth, unlike other bonds, catastrophe bonds, most of which are noninvestment-grade instruments, have not been sold to a wide range of investors beyond institutional investors. Investment fund managers who included catastrophe bonds in their portfolios told us that catastrophe bonds comprised 3 percent or less of those portfolios. On the one hand, the managers appreciate the diversification aspects of catastrophe bonds because the risks are generally uncorrelated with the credit risks of other parts of the bond portfolio. On the other hand, the risks are difficult to assess and investors are concerned about the limited liquidity and track record of the bonds.

Madame Chairwoman, Members of the Subcommittee, that concludes my prepared statement. I would be happy to answer any questions at this time.

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October 8, 2002

Statement of
Christopher M. McGhee
Marsh & McLennan Securities Corporation
The Bond Market Association

Testimony before
The Committee on Financial Services
Subcommittee on Oversight and Investigations

U.S. House of Representatives

The Risk-Linked Securities Market

On behalf of The Bond Market Association,[1] I would like to thank the Committee for holding this hearing on risk-linked securities, an important and growing segment of the fixed-income and reinsurance markets. My name is Christopher McGhee. I am a managing director at Marsh & McLennan Securities Corporation. I currently serve as chairman of the Risk-Linked Securities Committee of The Bond Market Association. The Risk-Linked Securities Committee includes representatives of securities firms that are active in the primary distribution and secondary market trading of risk-linked securities. I should note that my firm is an affiliate of Marsh & McLennan Companies, Inc., a global professional services firm whose operating companies include the world's leading insurance and reinsurance broker.

Overview

Over the past two decades, participants in the financial markets have developed sophisticated products designed to manage and transfer risk. Instruments such as structured debt and over-the-counter derivatives allow securities issuers and investors to price and manage risk efficiently. The capital markets have applied the same financial principles that have allowed market participants to manage credit and interest-rate risk to the catastrophe risk posed by hurricanes, earthquakes, and other natural perils borne by public entities, consumers and commercial enterprises.

Risk-linked securities (RLS) are a capital market innovation that developed in the wake

[1] The Association represents securities firms and banks that underwrite, distribute and trade debt securities, both domestically and internationally. Among other roles, the Association's members act as issuers, underwriters and dealers of risk-linked securities. More information about the Association, its members and activities may be obtained from the Association's website at www.bondmarkets.com.

of major catastrophes in the 1990s. Following the market-altering losses from Hurricane Andrew in 1992 and the Northridge Earthquake in 1994, catastrophe reinsurance capacity severely contracted and premiums rose significantly. Risk securitization, or the repackaging of insurance risks for capital market investors, was an idea that had been discussed in the years preceding the natural disasters of the early 90's. This idea, however, had never been seriously considered until the capacity crunch and price spike caused by Hurricane Andrew, the Northridge Earthquake and other disasters. As a result of these circumstances, the potential buyers of catastrophic risk protection began to seek alternative ways of transferring risk. The exploration of risk securitization by the capital markets began in earnest.

Risk securitization has the potential to generate substantial new sources of catastrophe risk-taking capacity on the part of insurers and reinsurers. This would, in turn, enable insurers and reinsurers to assume greater amounts of catastrophe risk from their policyholders. As such, there is a hope that, much as the secondary mortgage market brought the cost of home finance down significantly, insurance securitization could make catastrophe protection more broadly and cheaply available to policyholders than is currently the case. An increase in coverage could, in turn, reduce the potentially substantial burden on the federal government to provide emergency disaster relief to uninsured homeowners following a natural catastrophe. At the end of 2001, for example, only 17 percent of Californians had earthquake insurance.

As in all securitizations, repackaging risk requires the use of a special purpose entity, or SPE (also sometimes referred to as a special purpose vehicle, or SPV). Establishing the SPE in the jurisdiction of the U.S. tax code would expose the RLS transaction to two layers of tax, making the transaction more costly for issuers and less attractive to investors. As a result, the bulk of RLS transactions take place offshore in jurisdictions with no entity-level tax.

To fix this problem, Congress could permit reinsurance SPEs to be treated as "flow-through" vehicles that would not be taxable at the entity level. The change would streamline the RLS industry in the United States. Onshore risk securitizations would be less costly and less complicated to transact allowing insurers and reinsurers to manage risk more efficiently. As noted above, policyholders would be the ultimate beneficiaries of this new capacity for risk taking. This issue is, of course, a matter involving the tax code. As such, we recognize it is not subject to the jurisdiction of this committee, but rather the Committee on Ways and Means.

The RLS market faces another obstacle in the near term in the form of a pending accounting standard the Financial Accounting Standards Board (FASB) is planning to issue by the end of the year. The rule as presently contemplated would require an SPE in which a third party does not own at least a 10 percent equity stake to be consolidated on the balance sheet of the SPE's chief beneficiary. Depending on how the new standard is finalized, it could inhibit future growth of the RLS market.

Risk-Linked Securities

Insurance underwriters use a variety of tools to make sure they will remain solvent following a major insured loss. These tools include raising equity capital, limiting risk concentrations via the underwriting process and hedging risks in the reinsurance market. Traditionally, insurers hedge risk through the purchase of reinsurance contracts. In turn, reinsurers often elect to reinsure some of the risks they have assumed from insurance companies, primarily as a means of creating a more balanced portfolio of insurance risk. The reinsurance of risk by reinsurance companies is referred to as "retrocession." Beginning in 1994, insurers and reinsurers were able to use securitization to complement reinsurance and retrocession to accomplish their risk diversification goals.

The securitization of risk involves the transfer of insurance liability and premiums to investors in the capital markets through an SPE. Usually, but not always, this is structured as a special purpose reinsurance vehicle (SPRV). These SPRVs are similar in function to SPEs used in plain-vanilla asset securitizations, such as those underlying mortgage-backed securities. Risk-linked securities are issued by the SPRV to investors, and the proceeds from the sale of the securities are used to buy safe and liquid investments held in a separate trust until needed to pay claims (see Appendix). The SPRV then sells a reinsurance policy to the "sponsor" of the transaction, usually an insurance or reinsurance company. The policy limit is fully collateralized by the assets in the trust. RLS investors earn a return on the securities derived from the premiums associated with the underlying insurance risk and the interest earnings on the investments held in the trust. If the insured risk—such as an earthquake or a hurricane—occurs, the insurance company can collect under the reinsurance policy (subject to satisfying the terms of the reinsurance contract) and can use the proceeds to help satisfy insurance claims. The reinsurance policy pays out from the investments held in the trust.

The insurance company sponsoring the transaction has no control over the assets in the trust and can only access the assets if a pre-agreed natural disaster has occurred and the pre-agreed terms of the reinsurance contract are satisfied. Depending on how the securities are structured, RLS investors may have all or a part of their investment at risk. In no case, however, do RLS investors have liability beyond that investment. RLS investors also have no recourse against the insurance company's assets. The transaction represents a transfer of the risks and benefits of the catastrophe exposure to the RLS investors. In an economic sense, the RLS investors act as a reinsurer, with their exposure fully collateralized by the trust investments.

RLS are a relatively recent innovation that gained an initial foothold in the capital markets following Hurricane Andrew in 1992 and the Northridge Earthquake in 1994. The industry had paid claims of $15.5 billion from damage caused by Andrew as well as $12.5 billion in Southern California. This hit to reinsurers' financial resources caused catastrophe reinsurance capacity to be withdrawn and helped double the cost of catastrophe reinsurance by 1994. In that type of cost and limited capacity environment,

directly accessing the capital markets through the use of RLS became a more economically attractive alternative.

It is important to note that while many kinds of insurance risk have been considered for risk securitization, the securitization of natural catastrophe risk has dominated issuance to date. The need has been greatest in this area, essentially because the enormous concentration of risk to large catastrophe events is not easily absorbed on the balance sheet of the insurance and reinsurance industry.

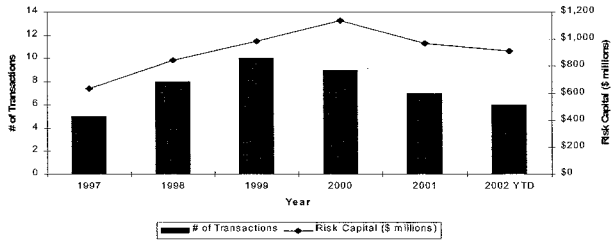
It is also worth noting that although terrorism risk to date has not been securitized, it may well happen in the future. Modeling firms have already done much work in this area. These efforts have yet to yield credible quantitative analysis of the probabilities of loss from terror events. With time, however, these models may be sufficiently accepted by issuers and investors so that securitization of terror risk will become a possibility.

Evolution of the RLS Market

In the eight years since the first RLS were issued, all aspects of the market—investors, issuers, RLS structures—have changed significantly. At the outset, the education required to understand the pricing of RLS limited the pool of investors. Sophisticated natural catastrophe modeling—which insurance industry participants spent years developing for use in managing their risk portfolios—began to be used to help investors assess the pricing and risks of catastrophe bonds. Investors had to grow comfortable with such techniques. Issuers, by the same token, were unsure of the new market and lacked an understanding of the best way to structure RLS. The various structures included different payout triggers, different maturities and both single and multiple peril bonds.

As the market grew accustomed to RLS, the number and size of transactions began to increase (see chart below). The first year of multiple issues was 1997 with five. While the number of issues per year and volume of deals has flattened out since its 1999 peak, the market has remained steady.

Risk-Linked Securities – Catastrophe Bonds Only



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Source: Guy Carpenter & Company

Since 1997, 45 catastrophe bond transactions have been completed with a total risk limit securitized of almost $6 billion. Of this total market size there are approximately $2.7 billion of catastrophe bonds outstanding in the capital markets as of September 2002.

The market has succeeded to date because RLS provide a complement to traditional reinsurance, equity capital and prudent underwriting. RLS also offer investors an opportunity for risk diversification as catastrophe risk generally does not correlate with other risks in investor portfolios. While the initial investors were typically insurers and reinsurers familiar with catastrophe risk and its pricing, today a wide variety of investors including commercial banks, large institutional money managers, life insurance companies and dedicated catastrophe bond funds invest in these securities.

The sponsors of RLS have been almost exclusively insurers and reinsurers. This is true for many of the same reasons mortgage bankers dominate the mortgage-backed securities markets. Like mortgage bankers, insurers and reinsurers possess the ability to aggregate insurance risks and the expertise required to repackage those risks in a way that is appealing to the capital markets. Insurance securitization follows a classic financial intermediation model where financial intermediaries assume risk, then pass risk to various types of investors ranging from their own equity shareholders to fixed income investors with varying risk appetites.

The RLS Market Going Forward

Domesticating the SPE and Accounting Issues

For insurers and reinsurers, risk securitization is an increasingly efficient way to diversify catastrophe risk using the capital markets. Under the current U.S. tax code, however, conducting these transactions using SPEs established in the United States is cumbersome and economically inefficient. As a result, most RLS transactions take place offshore in jurisdictions that do not tax the SPE at the entity level. However, even offshore securitizations present added costs to the fundamental RLS transaction, including compliance with the legal requirements in a foreign jurisdiction, the use of foreign administration services and other factors. From a cost viewpoint, it would be most efficient to conduct RLS transactions onshore provided the SPE is not taxed at the entity level.

Under the U.S. tax code, the SPE used to effect the RLS transaction would likely be subject to entity-level tax on income—the premiums it collects from the primary insurer and the interest earned on the investments held in trust. Because investors already face a tax on the return they earn from RLS, the second level of tax at entity level represents double taxation. This would reduce the economic benefits of the transaction, and is the reason why virtually

all RLS transactions have used offshore entities. It is important to note that current U.S. tax treatment of RLS transactions does not prevent transactions from taking place. U.S. tax law simply creates unnecessary costs and burdens on RLS issuers, forcing issuers to use offshore vehicles. The transactions are nonetheless subject to regulatory oversight in the offshore jurisdiction. In addition, issuers must disclose the mechanics and risks associated with the transaction in offering documents prepared for investors.

Uncertainty over whether RLS would be classified as debt or equity compounds the problem, as a tax deduction can only be taken for interest payments, not dividends. Permitting the reinsurance SPE to be treated as a "flow-through" vehicle that is not taxable at the entity level and clarifying the debt status of RLS would allow the transactions to be done at a lower cost in the United States.

A pending ruling by the FASB on the consolidation of SPEs may also present an obstacle to the development of RLS. FASB is expected to increase the minimum level of equity interest a third party must hold in an SPE in order to prevent consolidation on another party's balance sheet. The current 3 percent level would rise to 10 percent, under FASB's proposal. In general, the proposal would result in cases where the consolidation of an SPE would not reflect the true economic risks and benefits entailed by a company's relationship to the SPE. Until the new accounting standard is final, it will not be clear whether the change would require the consolidation of certain reinsurance SPEs by either a sponsor or an investor. In this respect, it should be noted that RLS transactions involve the transfer of contingent risk liabilities—which are not on balance sheet in the first place—from an insurer or reinsurer to the reinsurance SPE. RLS transactions do not involve the transfer of assets from the balance sheets of sponsors to the SPE. In addition, the transfer of contingent risk liabilities creates no accounting "benefit" for the insurer or reinsurer. It is therefore not clear that the FASB proposal should apply at all to SPEs used in RLS transactions. If the FASB proposal were to apply to these SPEs, however, it would limit further growth of the RLS market and could even disrupt outstanding transactions.

A subcommittee of the National Association of Insurance Commissioners (NAIC) has produced a model law that would facilitate the issuance of RLS. This model law is intended to clarify the treatment of RLS transactions under state insurance regulations so that sponsors of RLS transactions get full reinsurance "credit" for the risk transferred to RLS investors. To date, a few states have adopted this law and several others are considering it. The model state law would not resolve the federal tax issues currently discouraging onshore RLS issuance.

Conclusion

Risk-linked securities have the potential to dramatically increase the amount of competitively priced catastrophe insurance available to consumers, public entities and commercial enterprises. Insurers and reinsurers will act as the principal risk-taking intermediaries between those looking to shed insurance risk on the one hand, and capital markets investors willing to assume risk for a return, on the other. By providing a new

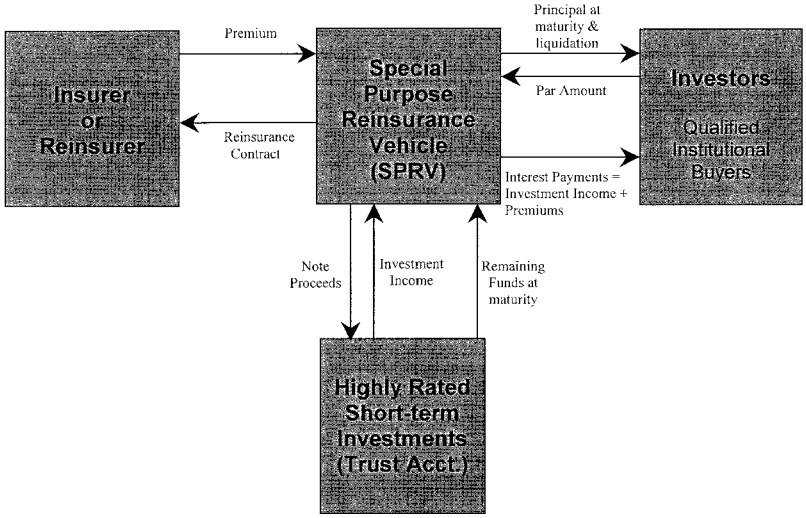
source of capital to the insurance and reinsurance industry, it is hoped that some of the price and capacity volatility of the marketplace can be dampened.

In sum, I would make these final points on behalf of the Association:

- RLS are beneficial to policyholders (consumers) as they help expand the availability of competitively priced catastrophe insurance.
- The RLS market can relieve pressure on governments to insure catastrophe risk.
- Any FASB proposal that results in an increase in the third-party equity requirements for RLS SPEs or requires consolidation of the SPEs on the balance sheet of any other entity involved in the transaction would be severely detrimental to the market.

Appendix

Basic Catastrophe Bond Structure



Testimony of the
National Association of Insurance Commissioners

Before the
Subcommittee on Oversight and Investigations

Committee on Financial Services
United States House of Representatives

Regarding:
Catastrophic Bonds: Spreading Risk

October 8, 2002

Michael Moriarty
Director, Capital Markets Bureau
New York Department of Insurance

Testimony of Michael Moriarty
National Association of Insurance Commissioners

Introduction

My name is Michael Moriarty. I am Director of the Capital Markets Bureau for the New York Department of Insurance. In addition, I am closely involved as a participant in the work of the NAIC's Insurance Securitization Working Group on behalf of New York Superintendent Greg Serio. I am pleased to be here today to provide the Subcommittee on Oversight and Investigations with an update of state regulatory practices that deal with reinsurance and the related use of securities to transfer insurance risk.

The Subcommittee asked NAIC to address specific questions in our testimony today. Those questions and the NAIC's responses are presented below –

What is the regulatory role of state insurance departments over reinsurers and reinsurance transactions?

State regulators are responsible for supervising the marketplace behavior of all insurers that sell insurance products to the public in the United States. As regulators, we focus our efforts on monitoring the financial condition of these companies, as well as their ability to satisfactorily meet their obligations to policyholders and claimants. Many of the insurers licensed by states are in the business of providing reinsurance to primary insurers. As reinsurers, they are generally subject to the same financial regulation standards that apply to primary insurers.

Insurers that obtain reinsurance from other insurers are called "ceding companies" because they transfer part of their insurance risks to others in return for sharing part of the premiums received from policyholders. In supervising reinsurance transactions, the

regulator's primary concern is solvency and the impact of reinsurance on the ceding company's financial condition. There are two underlying factors behind this approach:

- First, there exists some relative equality of negotiating leverage between the buyer and seller of reinsurance products; thus regulators need not oversee the terms and conditions of the reinsurance product.

- Second, much of the reinsurance ceded by U.S. companies goes to reinsurers domiciled outside the U.S.

The NAIC and the states have established Credit for Reinsurance laws and statutory accounting procedures that apply to reinsurance transactions in order to provide regulators with an effective method of supervising the reinsurance activities of U.S. companies. A complete explanation of the manner in which state insurance departments supervise reinsurance is included with this testimony as Attachment A, together with copies of the NAIC model laws on recognizing reinsurance.

While there is nothing to prevent a company from transacting reinsurance business with another company anywhere in the world, a U.S. ceding company will not be permitted to take statutory credit (reduce its liabilities by the amount ceded to reinsurers) or claim amounts recoverable from reinsurers as an asset on its balance sheet unless such reinsurers meet one of the following requirements:

1. The reinsurer is licensed in the same state of domicile as the ceding company for a like kind of business.

2. The domiciliary insurance department of the ceding company accredits the reinsurer. Requirements of becoming an accredited reinsurer include:

    a. Submitting to domestic state's jurisdiction.
    b. Submitting to domestic state's examination authority.

c. Reinsurer must be licensed in at least one state.
d. Reinsurer must file its annual financial statement in ceding company's domiciliary state.
e. Reinsurer must maintain policyholder surplus of at least $20 million.

3. The reinsurer is domiciled and licensed in a state with substantially similar credit for reinsurance laws as the state of the ceding company.

4. The reinsurer maintains sufficient trust funds in the U.S.

The focus on financial credit given for reinsurance recoverables remains the cornerstone of state reinsurance regulation. Mutual recognition or reduction in collateral requirements for non-U.S. reinsurance will require some time, as more transparency in regulatory and accounting systems in non-U.S. jurisdictions is necessary.

How would the States' roles change or grow if insurance-linked bond issuance was brought onshore?

The NAIC formed a working group on Insurance Securitization in 1998 to "investigate whether there needs to be a regulatory response to continuing developments in insurance securitization, including the use of non-U.S. special purpose vehicles, and to prepare educational material for regulators." As a result of its deliberations, the NAIC has taken the position that U.S. insurance regulators should encourage the development of alternative sources of capacity such as insurance securitizations and risk-linked securities, as long as those developments are compatible with the overriding goal of consumer protection. The NAIC believes one of the goals should be to encourage and facilitate securitizations within the United States. If transactions that are currently performed offshore were brought back to the United States, they would be subject to direct onshore supervision by state regulators.

The NAIC has adopted separate model acts to facilitate onshore securitizations using two different methods. These are the Protected Cell Company Model Act and the Special Purpose Reinsurance Vehicle Model Act. Copies of both are included as attachments to this testimony.

The first method of securitization is laid out in the Protected Cell Company Model Act. It provides that a segregated unit of the insurance company, called a "protected cell," would issue the insurance-linked bond. The protected cell can only accept risk that is written by the general account of the insurer, which then securitizes it through the protected cell mechanism. The act provides that securitizations must be both indemnity-based and fully-funded – meaning that the transaction must be based upon the insurer's own losses and that collateral must be on hand for the full exposure to possible loss. There is a placeholder in the act to allow for non-indemnity based transactions once the NAIC has adopted rules to govern such transactions.

The second method is set forth in the Special Purpose Reinsurance Vehicle Model Act, which enables fully-funded, indemnity-triggered securitizations to take place through a special reinsurance entity, whose only function is to transfer insurance risk to the capital markets via investment securities. The Special Purpose Reinsurance Vehicle (SPRV) reinsures risk from an insurer, and then securitizes that risk for sale to investors in the capital markets. As such, the SPRV does not retain the risk, but acts as a conduit to transform a reinsurance risk into a capital markets product. Like the Protected Cell Company Model Act, the SPRV Model Act contains a placeholder to allow for non-indemnity based transactions once rules governing them are promulgated.

It is important to consider the impact of U.S. taxes when trying to facilitate onshore securitization of insurance. For the Special Purpose Reinsurance Vehicles, a "cut-through" federal tax treatment for investors may be necessary to permit them to operate on a level playing field with offshore vehicles. For the protected cells, the federal tax code may need to recognize the cell as part of the insurance company, and not as a separate entity.

Does the NAIC have any concerns about offshore special purpose reinsurance vehicles issuing bonds?

Yes, to the extent that off-shore insurance securitizations are not subject to direct U.S. regulation. NAIC members believe that Special Purpose Vehicles must be used appropriately. At present, there is no evidence of improper use of offshore Special Purpose Vehicles in insurance securitization transactions. However, recent cases such as Enron demonstrate how inappropriate use of special purpose vehicles can endanger solvency. The NAIC believes Special Purpose Reinsurance Vehicles, when properly used and structured, can provide extra capacity and more competition, leading to a reduction in the cost of insurance for the public. The NAIC further believes that onshore SPRVs, regulated by state insurance regulators, would be preferable to the current situation where most securitizations are conducted offshore.

There is no present requirement that an offshore SPRV be fully-funded and collateralized. In the case of traditional offshore catastrophe reinsurance, this uncertainty is handled in part through the use of onshore trust funds that serve as collateral for the reinsurance coverage provided. There is also no current requirement that the overall securitization transaction in an offshore SPRV be subject to review by U.S. insurance regulators. Both the NAIC's Special Purpose Reinsurance Vehicle Model Act and the Protected Cell Company Model Act require that at least one state insurance commissioner review each transaction in depth and set the appropriate standards. We believe that using an onshore SPRV under state supervision would provide greater certainty and transparency for these transactions.

Does the NAIC have similar concerns about traditional reinsurance provided by offshore entities?

Traditional offshore catastrophe reinsurance involves similar potential problems of credit risk and adequate collateral. The sufficiency of collateral provided by offshore reinsurers

can only be known for certain after a catastrophic loss has occurred. The NAIC does not believe that offshore reinsurers providing catastrophic coverage are inherently unsafe, but the issue of sufficient capital to pay claimants after a major catastrophe does exist. Consequently, state regulators and the NAIC pay close attention to monitoring the security posted by offshore reinsurers. Credit and collateral risks are clearly reduced by the use of fully-funded onshore securitization.

What initiatives does the NAIC have underway, particularly in regard to balance sheet treatment and capital requirements?

Proponents of insurance-linked bonds and securities say the purpose of these instruments is to provide an alternative product that is functionally similar or equivalent to reinsurance. They want properly structured insurance securitizations to be recognized in the income statement in a way that is similar to regular reinsurance. The NAIC has already promulgated rules for protected cell companies that would achieve this end for fully-funded indemnity-based securitizations.

The appropriate accounting treatment of non-indemnity based transactions has been controversial. Nonetheless, the NAIC working group and industry representatives have come to a compromise that would allow income recognition to the extent that an index-based transaction successfully reduces risk. This recommendation has been sent to the NAIC's Statutory Accounting Principles working group for consideration and possible adoption through a Statement of Statutory Accounting Principles.

At present, insurance risks ceded to offshore SPRVs are treated exactly like offshore reinsurance. No credit is given to the transaction on the books of U.S. insurers unless state credit for reinsurance rules are followed by posting adequate collateral. The Risk Based Capital charges for the U.S. insurers also contain a charge for reinsurance placed with non-U.S. insurers. The NAIC expects to examine the appropriate level of Risk

Based Capital for onshore SPRVs in the future, especially as this may relate to non-indemnity transactions.

The NAIC is also active on the international front. Director Ernst Csiszar of the South Carolina Department of Insurance is currently serving as Chair of the Subgroup on Insurance Securitization and Other Related Forms of Alternative Risk Transfer for the International Association of Insurance Supervisors (IAIS). The subgroup is meeting in Santiago, Chile this week to consider a comprehensive issues paper on securitization issues. A copy of that paper is included as an appendix to this testimony.

Conclusion

The NAIC supports creating an environment that facilitates a more fluid transfer of insurance risk to the capital markets. Given the amount of capital in the property/casualty industry, a major catastrophe or series of catastrophes could strain the ability of the industry to respond to its customers. The capital markets, because of their sheer size, can better absorb such events. There are precedents in the securitization of other risks, such mortgages and other receivables, which indicate securitization of risk can lend capacity and liquidity to a marketplace.

Securitization of insurance risk is not a panacea for the funding of catastrophe risk. We see it as an addition, rather than a replacement, to traditional reinsurance. We cannot gauge the appetite of capital market investors for these securities. However, the NAIC believes it is important to enable the marketplace to make that determination. Other initiatives to address the capacity needs for catastrophe and other coverages should continue to be explored.

ATTACHMENT A

THE REGULATION OF REINSURANCE AND REINSURANCE TRANSACTIONS IN THE UNITED STATES

Presented By

Michael Moriarty
Director, Capital Markets Bureau
New York Department of Insurance

Background

In the United States the regulation of insurance takes place at the state rather than at the national level. State insurance regulators are charged with the responsibility for controlling the marketplace behavior of companies and individuals licensed to sell insurance products to the public, and for monitoring the financial condition of the companies and their ability to satisfactorily discharge the insurance obligations they have undertaken. State insurance departments require that reinsurers domiciled in the U.S. are subject to the same financial regulation standards as would apply to any primary insurer. U.S. reinsurers file quarterly and annual financial statements, are subject to financial examinations, pay licensing fees, and comply with the full spectrum of corporate and regulatory laws concerning insurance companies nationwide.

The Regulatory Approach to Reinsurance

The regulatory approach to reinsurance in the United States has traditionally been focused on the ceding company's reinsurance arrangements and the specific provisions in its reinsurance agreements. From the regulator's perspective, the overriding concern has to do with solvency and the impact of reinsurance on the ceding company's financial condition. The regulator attempts to ensure solvency for the benefit of ceding insurers, creditors, and ultimately consumers of insurance products.

The basis for this approach is twofold: there is first a presumption that there exists some relative equality of negotiating leverage between the buyer and seller of reinsurance products; this may not be entirely true in every instance, but the assumption that the buyer of reinsurance is less in need of regulatory intervention or protection than the average buyer of personal auto or homeowners or life insurance coverage is probably not unreasonable. Market conduct concerns are therefore not a primary concern for regulators in the context of the reinsurance marketplace.

The second element in this rationale lies in the fact that much of the reinsurance ceded by U.S. companies goes to reinsurers domiciled outside the U.S. Many of the largest, oldest, and financially strongest reinsurers are located abroad, and the capacity they provide is very important to U.S. ceding companies. Since they are effectively beyond the regulatory reach of U.S. regulators, however, statutory accounting rules and the laws regarding credit for reinsurance require that all amounts recoverable from such reinsurers must be properly collateralized, usually by means of letters of credit issued by authorized U.S. financial institutions, or by a trust account established in this country for the benefit of U.S. ceding insurers. Any amounts not collateralized may not be deducted from the ceding company's balance sheet, and therefore represent a direct deduction from the company's statutory surplus. Due to the size of the U.S. insurance marketplace, questions of availability and affordability are not entirely irrelevant. Inexpensive reinsurance, however, whether purchased domestically or via non-U.S. reinsurers, which fails to respond when called upon should not be considered favorably. This is not just a theoretical concern; unrecoverable reinsurance has been a major ingredient in some of the largest insurance insolvencies in recent years.

The ultimate recoverability of reinsurance balances by the ceding company and the timeliness of recoveries have also become a matter of regulatory concern over the last several years. Reinsurance balances recoverable from the company's reinsurers should be evaluated just as any other receivable would be: based on the perceived financial condition of the reinsurer, what is the likelihood that the company will recover all of the amounts recoverable from that reinsurer in a timely manner, consistent with the actual payment of claims under the polices reinsured, or as respects aggregate or catastrophe reinsurance protections, with the terms of the reinsurance agreement? Several revisions to the annual statement reinsurance schedules serve to provide strong motivation to ceding companies to do everything possible to accelerate the collection process. Recoverables that are in excess of 90 days overdue will incur a 20% penalty. In addition, overdue recoverable amounts that exceed 20% of all recoverables on paid losses create an annual statement penalty of 20% of those recoverables. These penalties will directly impact the company's surplus position. The ceding insurer can draw on a trust fund or other collateral in order to avoid the penalty. The statutory penalties for delinquent reinsurance recoverables appears to have had the intended effect of accelerating cash recoveries, as measured by the total penalty amount for all companies reporting, expressed as a percentage of industry surplus. However, if the regulators find evidence of difficulty in making timely recoveries, the company's overall exposure to potentially unrecoverable balances should be thoroughly investigated.

The Regulatory Framework

The Credit for Reinsurance laws[1] and statutory accounting requirements and procedures applicable to reinsurance transactions serve to provide regulators with an effective method of controlling the reinsurance activities of U.S. companies. While there is nothing to prevent a company from transacting reinsurance business with any other company anywhere in the world, a U.S. ceding company will not be permitted to take

[1] See NAIC Credit for Reinsurance Model Law and Regulation.

statutory credit, that is to reduce liabilities by the amount ceded to reinsurers, or claim amounts recoverable from reinsurers as an asset on its balance sheet, unless such reinsurers meet one of the following requirements:

1. The reinsurer is licensed in the same state of domicile as the ceding company for a like kind of business.

2. The domiciliary insurance department of the ceding company accredits the reinsurer. Requirements of becoming accredited include:

    a. Submitting to enacting state's jurisdiction
    b. Submitting to enacting state's examination authority
    c. Reinsurer must be licensed in at least one state
    d. Reinsurer must file its annual financial statement in ceding company's domiciliary state
    e. Maintain policyholder surplus of at least $20 million.

1. The reinsurer is domiciled and licensed in a state with substantially similar credit for reinsurance laws as the state of the ceding company

2. The reinsurer maintains trust funds in the U.S.

3. To the extent that the ceding company withholds funds or security from the reinsurer

The Credit for Reinsurance Model Regulation provides additional details to the credit for reinsurance model law. It contains guidance on valuing assets and additional trust fund requirements.

Non-U.S. reinsurers have a variety of options aside from posting collateral when seeking to assume reinsurance business from U.S. ceding insurers. These options include:

- Obtaining a license to conduct insurance/reinsurance in the U.S. by establishing a separate affiliate entity or by directly "entering" the U.S. through a particular state and establishing a branch in the U.S.;

- Establish a multiple beneficiary trust fund which secures its obligations to all U.S. cedents plus a surplus amount which is, for an individual assuming insurer, U.S. $ 20 million (for Lloyd's the joint and several surplus amount is $ 100 million); or

- Provide individual collateral (through a trust, letter of credit or other acceptable security) to each of its ceding insurers without the necessity of a surplus amount in additional to its obligations.[2]

[2] Debra J. Hall, *Reinsurance Regulation in a Global Marketplace: A View from the United States*, pg. 7.

The collateral required for credit for reinsurance purposes most commonly takes the form of letters of credit issued on behalf of an unauthorized reinsurer, or a separate trust account established by an unauthorized reinsurer, with the ceding company in either case designated as the "beneficiary."

A letter of credit (LOC) is a document issued by a bank at the request of the unauthorized reinsurer (the "account party"), which stipulates that the bank will honor any draft presented by the beneficiary pursuant to a reinsurance agreement between the account party and the beneficiary. The LOC must be "clean" (i.e., not subject to any other documents conditions or to any limitations, other than its face amount, and not dependent on reimbursement from the account party), irrevocable (not cancelable prior to its stated expiration date), and must contain an "evergreen clause" (provides for automatic extension for a further twelve months unless at least 30 days advance notification of intent not to extend the LOC has been provided to the beneficiary), and must be issued or confirmed by a qualified U.S. financial institution (the Securities Valuation Office (SVO) of the National Association of Insurance Commissioner's (NAIC) maintains a listing of such institutions).

LOCs have been simple and reliable method of securing the obligations of unauthorized reinsurers. In reviewing the company's collateral arrangements, U.S. regulators verify that the LOC issued on behalf of any unauthorized reinsurer is an amount at least equal to the amount of annual statement credit taken as respects reinsurance ceded to that reinsurer, and all LOCs bear an effective date no later than the date of the most recent financial statement on which credit for reinsurance ceded to the unauthorized reinsurer has been taken.

As an alternative to LOCs, a trust account, in an amount sufficient to cover its obligations to the ceding company may be established by an unauthorized reinsurer (the "grantor"). The trustee must be a qualified U.S. financial institution (listed by the SVO), and the trust agreement must designate the ceding company as sole beneficiary, with unrestricted right to withdraw assets from the account without prior notice to the grantor and without any required documentation or conditions apart from those stipulated in the trust agreement itself.

The trust agreement often stipulates the nature and the type of assets, which may be deposited into the account; U.S. regulators verify that all assets held in such accounts are consistent with normal standards for admitted assets. The agreement should stipulate that it cannot be terminated unless at least 30 days prior notice has been given to the beneficiary, and that upon termination any assets not previously withdrawn by the beneficiary may be returned to the grantor only with the approval of the beneficiary.

From 1997-2001, non-U.S. reinsurers have written an increasing percentage of U.S. ceded reinsurance premiums. In 1997, non-U.S. reinsurers wrote approximately 38.4% of the total ceded premiums with U.S. unaffiliated cessions accounting for 61.6% of premiums. In 2001, the non-U.S. share had increased to 48.0% with the domestic

reinsurers comprising 52.0% of the total.[3] An obvious question would be that if indeed the non-U.S. market share of U.S. ceded reinsurance premium has been increasing, then how can current U.S. regulations be considered unduly onerous to non-U.S. reinsurers?

Reinsurance Intermediaries

Reinsurance intermediaries, or brokers, play an important role in the reinsurance marketplace, and are also subject to regulatory control.[4] Nearly all of the states have implemented licensing requirements for reinsurance brokers. The Reinsurance Intermediary Model Act:

- Provides for licensing requirements for reinsurance brokers, managers and intermediaries.
- Establishes requirements regarding proper documentation of reinsurance transactions
- Requires insurers to employ licensed brokers, intermediaries and annually review their financial statements.
- maintenance of records and accounts, and timely remittance of funds held by the broker in a fiduciary capacity
- Requires a written contract with the reinsurance intermediary or broker.

Reinsurance contracts that are negotiated via intermediaries must include an Intermediary Clause, which states that the:

- Credit risk for the intermediary is on the reinsurer. Payment from the ceding company to the broker is deemed paid to the reinsurer.
- Payment to the broker from the reinsurer does not relieve the obligations of the reinsurer to the ceding company.

Assumption Reinsurance

While regulatory treatment has historically been somewhat inconsistent from state to state, it is expected that to the extent that states adopt the major elements of the NAIC Assumption Reinsurance Model Act[5] there is likely to be greater uniformity in future regarding policyholder notification, disclosure and prior regulatory approval of such transactions. Since long-term non-cancelable policies are preponderantly found in the life and health sector, assumption transactions are utilized much more extensively there than in the property-casualty sector.

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[3] Reinsurance Association of America, Alien Reinsurance in the US Market 2001

[4] See NAIC Reinsurance Intermediary Model Act

[5] See NAIC Assumption Reinsurance Model Act

- This act is not as widely passed by the states.
- Assumption reinsurance contracts have a novation in the contract, meaning the assuming company is deemed to step into the place of the company that originally issued the policy.
- Approval by the insurance department is required.
- Policyholder notice and acceptance or rejection of the transfer is also required.

Disclosure of Material Transactions

The Disclosure of Material Transactions Model Act[6] requires insurers to file a report with their domiciliary state that discloses material:

- Acquisitions and disposals of assets that represent more than 5% of admitted assets.
- Renewals, cancellations or revisions of ceded reinsurance agreements (> 50% of ceded premium or >50% ceded loss and LAE reserves).
- Material new ceded reinsurance agreements.
- An authorized reinsurer representing more than 10% of total cession is replaced with unauthorized reinsurers or collateral requirements are reduced.
  No report is required if:
  - The company cedes less than 10% of total written premium or
  - Less than 10% of reserves or
  - The transaction has already been submitted for approval of the insurance commissioner.

Accounting Practices and Procedures Promulgated by the NAIC

The NAIC, through its committees and working groups, facilitates many projects of importance to the insurance regulators, industry, and users of statutory financial information. The mission of the Accounting Practices and Procedures Task Force is to identify, investigate and develop solutions to accounting problems with the ultimate goal of guiding insurers in properly accounting for various aspects of their operations and to modify the Accounting Practices and Procedures Manuals. However, these Manuals are not intended to preempt states' legislative and regulatory authority. It is intended to establish a comprehensive basis of accounting recognized and adhered to, if not in

[6] See NAIC Disclosure of Material Transactions Model Act

conflict with state statutes and/or regulations, or when the state statutes and/or regulations are silent.

To carry out the mission, the Accounting Practices and Procedures Task Force is charged with carrying out the following initiatives:

- Provide authoritative guidance to insurance regulators on current statutory accounting issues.
- Continue evaluation of statutory accounting principles for purposes of development, expansion and codification.
- Extend evaluation of statutory accounting principles to address areas specific to health entities.
- The Statutory Accounting Principles Working Group maintains codified statutory accounting principles by providing periodic updates to the guidance which address new statutory issues and new generally accepted accounting principles (GAAP) pronouncements as they develop.

An Accounting Environment for Insurance Companies

Accounting is the process of accumulating and reporting financial information about an economic unit or group of units. Relative to commercial enterprises, the users of accounting information include management, investors, potential investors, lenders, investment analysts, regulators, and customers. Although customers of most commercial enterprises have no direct financial interest therein and generally are only concerned with the price to be paid for the product or service purchased, they may use accounting information to make choices as to the entity with which they engage in a business transaction. This is particularly relevant to purchases of insurance products inasmuch as insurance contracts involve a promise to pay, which may extend years into the future. Insurance products may provide benefits well in excess of the purchase price or premium. The benefits ultimately received are almost always greater than the price (premium) paid and can only be estimated at the time the product (policy) is purchased.

Insurance commissioners are charged with overseeing the financial condition of insurance companies doing business in their jurisdictions and they require meaningful financial, statistical, and operating information about the companies. This financial oversight is designed to help ensure that policyholders and claimants receive the requisite benefits from the policies sold, often times such products having been sold years or decades prior to when the benefits are due. Frequently, this regulatory perspective differs markedly from the perspectives of other users of insurers' accounting information. In recognition of these special concerns and responsibilities, statutory accounting principles have been established by statute, regulation, and practice.

Comparison Of GAAP And SAP

The objectives of GAAP reporting differ from the objectives of SAP. GAAP is designed to meet the varying needs of the different users of financial statements. SAP is designed to address the concerns of regulators, who are the primary users of statutory financial statements. As a result, GAAP stresses measurement of emerging earnings of a business from period to period, (i.e., matching revenue to expense), while SAP stresses measurement of ability to pay claims in the future. This difference is illustrated by the fact that statutory policy reserves are intentionally established on a conservative basis emphasizing the long-term nature of the liabilities. Under GAAP, the experience expected by each company, with provision for the risk of adverse deviation, is used to determine the reserves it will establish for its policies. GAAP reserves may be more or less than the statutory policy reserves.

- Some other differences between SAP and GAAP have included:

- GAAP has recognized certain assets which, for statutory purposes, have been either nonadmitted or immediately expensed. Policy acquisition costs are expensed as incurred under SAP since the funds so expended are no longer available to pay future liabilities. Insurance company financial statements prepared in accordance with GAAP defer costs incurred in the acquisition of new business and amortize them over the premium recognition period.

- Deferred income taxes have, historically, not been recognized under SAP.

ıe methods of accounting for certain aspects of reinsurance under GAAP may have varied ›m SAP, e.g., credit for reinsurance in unauthorized companies.[7]

The NAIC/SSO Role

The NAIC has undertaken, as part of the overall effort to strengthen the regulation of reinsurance, to provide a centralized resource, which states can turn to for assistance on technical reinsurance questions, or questions related to statutory accounting treatment of reinsurance transactions. Since reinsurance agreements are often very complex documents, many states take advantage of the services of the Reinsurance Department in the Financial Services Division of the NAIC for assistance in interpreting contract provisions, understanding their practical effects on the company's financial condition, and determining the extent to which statutory credit may appropriately be allowed.

Summary

Taken together, all of these regulatory efforts mean that reinsurance transactions are reported in much greater detail and with greater accuracy in company financial statements, which means that regulators and other users of these financial statements can place greater reliance on them. Companies have also been given positive motivation to

[7] NAIC, Accounting Practices and Procedures Manual, Preamble, Volume I (2002).

pay very close attention to the quality of the reinsurance protection that they buy, which means that unrecoverable reinsurance should be much less of a problem in future. The focus on financial credit given reinsurance recoverables remains the cornerstone of the U.S. reinsurance regulatory environment. Mutual recognition or reduction in collateral requirements will require some time until there is more transparency in regulatory systems and accounting systems in non-U.S. jurisdictions.

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PROTECTED CELL COMPANY MODEL ACT

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Section 1. Short Title

This Act may be cited as the "Protected Cell Company Act."

Section 2. Purpose

This Act is adopted to provide a basis for the creation of protected cells by a domestic insurer as one means of accessing alternative sources of capital and achieving the benefits of insurance securitization. Investors in fully funded insurance securitization transactions provide funds that are available to pay the insurer's insurance obligations or to repay the investors or both. The creation of protected cells is intended to be a means to achieve more efficiencies in conducting insurance securitizations.

Drafting Note: Under the terms of the typical debt instrument underlying an insurance securitization transaction, prepaid principal is repaid to the investor on a specified maturity date with interest, unless a trigger event occurs. The insurance securitization proceeds secure both the protected cell company's insurance obligations if a trigger event occurs, as well as the protected cell company's obligation to repay the insurance securitization investors if a trigger event does not occur. Insurance securitization transactions have been performed through alien companies in order to utilize efficiencies available to alien companies that are not currently available to domestic companies. This Act is adopted in order to create more efficiency in conducting insurance securitization, to allow domestic protected cell companies easier access to alternative sources of capital, and to promote the benefits of insurance securitization generally.

Section 3. Definitions

For the purposes of this Act, the following terms shall have the following meanings:

A. "Domestic insurer" means an insurer domiciled in the State of [insert state]

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B. "Fair value" of an asset (or liability) means the amount at which that asset (or liability) could be bought (or incurred) or sold (or settled) in a current transaction between willing parties, that is, other than in a forced or liquidation sale. Quoted market prices in active markets are the best evidence of fair value and shall be used as the basis for the measurement, if available. If a quoted market price is available, the fair value is the product of the number of trading units times market price. If quoted market prices are not available, the estimate of fair value shall be based on the best information available. The estimate of fair value shall consider prices for similar assets and liabilities and the results of valuation techniques to the extent available in the circumstances. Examples of valuation techniques include the present value of estimated expected future cash flows using a discount rate commensurate with the risks involved, option-pricing models, matrix pricing, option-adjusted spread models, and fundamental analysis. Valuation techniques for measuring financial assets and liabilities and servicing assets and liabilities shall be consistent with the objective of measuring fair value. Those techniques shall incorporate assumptions that market participants would use in their estimates of values, future revenues, and future expenses, including assumptions about interest rates, default, prepayment, and volatility. In measuring financial liabilities and servicing liabilities at fair value by discounting estimated future cash flows, an objective is to use discount rates at which those liabilities could be settled in an arm's-length transaction. Estimates of expected future cash flows, if used to estimate fair value, shall be the best estimate based on reasonable and supportable assumptions and projections. All available evidence shall be considered in developing estimates of expected future cash flows. The weight given to the evidence shall be commensurate with the extent to which the evidence can be verified objectively. If a range is estimated for either the amount or timing of possible cash flows, the likelihood of possible outcomes shall be considered in determining the best estimate of future cash flows.

C. "Fully funded" means that, with respect to any exposure attributed to a protected cell, the fair value of the protected cell assets, on the date on which the insurance securitization is effected, equals or exceeds the maximum possible exposure attributable to the protected cell with respect to such exposures.

D. "General account" means the assets and liabilities of a protected cell company other than protected cell assets and protected cell liabilities.

E. "Indemnity trigger" means a transaction term by which relief of the issuer's obligation to repay investors is triggered by its incurring a specified level of losses under its insurance or reinsurance contracts.

F. "Non-indemnity trigger" means a transaction term by which relief of the issuer's obligation to repay investors is triggered solely by some event or condition other than the individual protected cell company incurring a specified level of losses under its insurance or reinsurance contracts.

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G. "Protected cell" means an identified pool of assets and liabilities of a protected cell company segregated and insulated by means of this Act from the remainder of the protected cell company's assets and liabilities.

Drafting Note: This term is meant to reference identification of statutorily segregated assets and liabilities through the accounting function. By attributing certain assets and liabilities to a protected cell on the protected cell company's books and records, and otherwise complying with the provisions of this Act, the protected cell company will receive statutory insulation of those assets and liabilities from the protected cell company's other assets and liabilities not identified in the accounting records as attributable to the protected cell.

B. "Protected cell account" means a specifically identified bank or custodial account established by a protected cell company for the purpose of segregating the protected cell assets of one protected cell from the protected cell assets of other protected cells and from the assets of the protected cell company's general account.

Drafting Note: This term is meant to reference a custodial account established to hold and invest protected cell assets, such that protected cell assets are also distinct and identifiable from the assets of the general account.

C. "Protected cell assets" means all assets, contract rights and general intangibles, identified with and attributable to a specific protected cell of a protected cell company.

D. "Protected cell company" means a domestic insurer that has one or more protected cells.

E. "Protected cell company insurance securitization" means the issuance of debt instruments, the proceeds from which support the exposures attributed to the protected cell, by a protected cell company where repayment of principal or interest, or both, to investors pursuant to the transaction terms is contingent upon the occurrence or nonoccurrence of an event with respect to which the protected cell company is exposed to loss under insurance or reinsurance contracts it has issued.

F. "Protected cell liabilities" means all liabilities and other obligations identified with and attributable to a specific protected cell of a protected cell company.

Section 4. Establishment of Protected Cells

A. A protected cell company may establish one or more protected cells with the prior written approval of the commissioner of a plan of operation or amendments thereto submitted by the protected cell company with respect to each protected

cell in connection with an insurance securitization. Upon the written approval of the commissioner of the plan of operation, which shall include, but not be limited to, the specific business objectives and investment guidelines of the protected cell, the protected cell company may, in accordance with the approved plan of operation, attribute to the protected cell insurance obligations with respect to its insurance business and obligations relating to the insurance securitization and assets to fund the obligations. A protected cell shall have its own distinct name or designation, which shall include the words "protected cell." The protected cell company shall transfer all assets attributable to a protected cell to one or more separately established and identified protected cell accounts bearing the name or designation of that protected cell. Protected cell assets shall be held in the protected cell accounts for the purpose of satisfying the obligations of that protected cell.

Drafting Note: Insert the title of the chief insurance regulatory official wherever the term "commissioner" appears.

B. All attributions of assets and liabilities between a protected cell and the general account shall be in accordance with the plan of operation approved by the commissioner. No other attribution of assets or liabilities may be made by a protected cell company between the protected cell company's general account and its protected cells. Any attribution of assets and liabilities between the general account and a protected cell, or from investors in the form of principal on a debt instrument issued by a protected cell company in connection with a protected cell company securitization shall be in cash or in readily marketable securities with established market values.

C. The creation of a protected cell does not create, in respect of that protected cell, a legal person separate from the protected cell company. Amounts attributed to a protected cell under this Act, including assets transferred to a protected cell account, are owned by the protected cell company and the protected cell company may not be, nor hold itself out to be, a trustee with respect to those protected cell assets of that protected cell account. Notwithstanding the foregoing, the protected cell company may allow for a security interest to attach to protected cell assets or a protected cell account when in favor of a creditor of the protected cell and otherwise allowed under applicable law.

D. This Act shall not be construed to prohibit the protected cell company from contracting with or arranging for an investment advisor, commodity trading advisor, or other third party to manage the protected cell assets of a protected cell, provided that all remuneration, expenses and other compensation of the third party advisor or manager are payable from the protected cell assets of that protected cell and not from the protected cell assets of other protected cells or the assets of the protected cell company's general account.

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E. (1) A protected cell company shall establish administrative and accounting procedures necessary to properly identify the one or more protected cells of the protected cell company and the protected cell assets and protected cell liabilities attributable to the protected cells. It shall be the duty of the directors of a protected cell company to:

(a) Keep protected cell assets and protected cell liabilities separate and separately identifiable from the assets and liabilities of the protected cell company's general account and;

(b) Keep protected cell assets and protected cell liabilities attributable to one protected cell separate and separately identifiable from protected cell assets and protected cell liabilities attributable to other protected cells.

(2) Notwithstanding the foregoing, if this section is violated, the remedy of tracing shall be applicable to protected cell assets when commingled with protected cell assets of other protected cells or the assets of the protected cell company's general account. The remedy of tracing shall not be construed as an exclusive remedy.

F. The protected cell company shall, when establishing a protected cell, attribute to the protected cell assets with a value at least equal to the reserves and other insurance liabilities attributed to that protected cell.

Section 5. Use and Operation of Protected Cells

A. The protected cell assets of a protected cell may not be charged with liabilities arising out of any other business the protected cell company may conduct. All contracts or other documentation reflecting protected cell liabilities shall clearly indicate that only the protected cell assets are available for the satisfaction of those protected cell liabilities.

B. The income, gains and losses, realized or unrealized, from protected cell assets and protected cell liabilities shall be credited to or charged against the protected cell without regard to other income, gains or losses of the protected cell company, including income, gains or losses of other protected cells. Amounts attributed to any protected cell and accumulations on the attributed amounts may be invested and reinvested without regard to any requirements or limitations of Section [insert reference applicable sections of the insurance code imposing limitations on insurance company investments] and the investments in a protected cell or cells shall not be taken into account in applying the investment limitations otherwise applicable to the investments of the protected cell company.

C. Assets attributed to a protected cell shall be valued at their fair value on the date of valuation.

D. A protected cell company shall, in respect of any of its protected cells, engage in fully funded indemnity triggered insurance securitization to support in full the protected cell exposures attributable to that protected cell. A protected cell company insurance securitization that is non-indemnity triggered shall qualify as an insurance securitization under the terms of this Act only after the commissioner, in accordance with the authority granted under Section 9 of this Act, adopts regulations addressing the methods of funding of the portion of the risk that is not indemnity based, accounting, disclosure, risk based capital treatment, and assessing risks associated with such securitizations. A protected cell company insurance securitization that is not fully funded, whether indemnity triggered or non-indemnity triggered, is prohibited. Protected cell assets may be used to pay interest or other consideration on any outstanding debt or other obligation attributable to that protected cell, and nothing in this subsection shall be construed or interpreted to prevent a protected cell company from entering into a swap agreement or other transaction for the account of the protected cell that has the effect of guaranteeing interest or other consideration.

E. In all protected cell company insurance securitizations, the contracts or other documentation effecting the transaction shall contain provisions identifying the protected cell to which the transaction will be attributed. In addition, the contracts or other documentation shall clearly disclose that the assets of that protected cell, and only those assets, are available to pay the obligations of that protected cell. Notwithstanding the foregoing, and subject to the provisions of this Act and any other applicable law or regulation, the failure to include such language in the contracts or other documentation shall not be used as the sole basis by creditors, reinsurers or other claimants to circumvent the provisions of this Act.

F. A protected cell company shall only be authorized to attribute to a protected cell account the insurance obligations relating to the protected cell company's general account. Under no circumstances shall a protected cell be authorized to issue insurance or reinsurance contracts directly to policyholders or reinsureds or have any obligation to the policyholders or reinsureds of the protected cell company's general account.

G. At the cessation of business of a protected cell in accordance with the plan approved by the commissioner, the protected cell company shall voluntarily close out the protected cell account.

Section 6. Reach of Creditors and Other Claimants

A. (1) Protected cell assets shall only be available to the creditors of the protected cell company that are creditors in respect to that protected cell and shall

thereby be entitled, in conformity with the provisions of this Act, to have recourse to the protected cell assets attributable to that protected cell, and shall be absolutely protected from the creditors of the protected cell company that are not creditors in respect of that protected cell and who, accordingly, shall not be entitled to have recourse to the protected cell assets attributable to that protected cell. Creditors with respect to a protected cell shall not be entitled to have recourse against the protected cell assets of other protected cells or the assets of the protected cell company's general account.

(2) Protected cell assets shall only be available to creditors of a protected cell company after all protected cell liabilities have been extinguished or otherwise provided for in accordance with the plan of operation relating to that protected cell.

B. When an obligation of a protected cell company to a person arises from a transaction, or is otherwise imposed, in respect of a protected cell:

(1) That obligation of the protected cell company shall extend only to the protected cell assets attributable to that protected cell, and the person shall, with respect to that obligation, be entitled to have recourse only to the protected cell assets attributable to that protected cell; and

(2) That obligation of the protected cell company shall not extend to the protected cell assets of any other protected cell or the assets of the protected cell company's general account, and that person shall not, with respect to that obligation, be entitled to have recourse to the protected cell assets of any other protected cell or the assets of the protected cell company's general account.

C. When an obligation of a protected cell company relates solely to the general account, the obligation of the protected cell company shall extend only to, and that creditor shall, with respect to that obligation, be entitled to have recourse only to, the assets of the protected cell company's general account.

D. The activities, assets, and obligations relating to a protected cell are not subject to the provisions of Section [insert applicable sections of the insurance code addressing life and health and property and casualty guaranty or insolvency funds], and neither a protected cell nor a protected cell company shall be assessed by or otherwise be required to contribute to any guaranty fund or guaranty association in this state with respect to the activities, assets, or obligations of a protected cell. Nothing in this subsection shall affect the activities or obligations of an insurer's general account.

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E. In no event shall the establishment of one or more protected cells alone constitute or be deemed to be a fraudulent conveyance, an intent by the protected cell company to defraud creditors, or the carrying out of business by the protected cell company for any other fraudulent purpose.

Section 7. Conservation, Rehabilitation or Liquidation of Protected Cell Companies

A. Notwithstanding any contrary provision in the insurance code of this state, the regulations promulgated under the insurance code of this state, or any other applicable law or regulation, upon any order of conservation, rehabilitation or liquidation of a protected cell company, the receiver shall be bound to deal with the protected cell company's assets and liabilities, including protected cell assets and protected cell liabilities, in accordance with the requirements set forth in this Act.

B. With respect to amounts recoverable under a protected cell company insurance securitization, the amount recoverable by the receiver shall not be reduced or diminished as a result of the entry of an order of conservation, rehabilitation or liquidation with respect to the protected cell company notwithstanding any provisions to the contrary in the contracts or other documentation governing the protected cell company insurance securitization.

Drafting note: A number of states require a liquidator to cancel policies within a pre-specified time period in the event of a liquidation. While reviewing the Plan of Operation, commissioners should consider the termination provisions, if any, of the securitization instruments in the event of the cancellation of all of the insurance policies underlying the securitization in order to assess whether any portion of the risk premium relating to those underlying policies should equitably be returned to the estate of the general account.

Section 8. No Transaction of an Insurance Business

A protected cell company insurance securitization shall not be deemed to be an insurance or reinsurance contract. An investor in a protected cell company insurance securitization shall not, by sole means of this investment, be deemed to be transacting an insurance business in this state. The underwriters or selling agents (and their partners, directors, officers, members, managers, employees, agents, representatives and advisors) involved in a protected cell company insurance securitization shall not be deemed to be conducting an insurance or reinsurance agency, brokerage, intermediary, advisory or consulting business by virtue of their activities in connection therewith.

Section 9. Authority to Adopt Regulations

The commissioner may promulgate regulations necessary to effectuate the purposes of this Act.

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Section 10. Effective Date

This Act shall become effective on [insert date].

Legislative History (all references are to the Proceedings of the NAIC).

1999 Proc. 3rd Quarter 24-25, 26, 194, 332-336 (adopted).

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CREDIT FOR REINSURANCE MODEL LAW

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Section 1. Purpose

The purpose of this Act is to protect the interest of insureds, claimants, ceding insurers, assuming insurers and the public generally. The legislature hereby declares its intent is to ensure adequate regulation of insurers and reinsurers and adequate protection for those to whom they owe obligations. In furtherance of that state interest, the legislature hereby provides a mandate that upon the insolvency of a non-U.S. insurer or reinsurer that provides security to fund its U.S. obligations in accordance with this Act, the assets representing the security shall be maintained in the United States and claims shall be filed with and valued by the state insurance commissioner with regulatory oversight, and the assets shall be distributed, in accordance with the insurance laws of the state in which the trust is domiciled that are applicable to the liquidation of domestic U.S. insurance companies. The legislature declares that the matters contained in this Act are fundamental to the business of insurance in accordance with 15 U.S.C. §§ 1011-1012.

Section 2. Credit Allowed a Domestic Ceding Insurer

Credit for reinsurance shall be allowed a domestic ceding insurer as either an asset or a reduction from liability on account of reinsurance ceded only when the reinsurer meets the requirements of Subsections A, B, C, D or E of this section. Credit shall be allowed under Subsections A, B or C of this section only as respects cessions of those kinds or classes of business which the assuming insurer is licensed or otherwise permitted to write or assume in its state of domicile or, in the case of a U.S. branch of an alien assuming insurer, in the state through which it is entered and licensed to transact insurance or reinsurance. Credit shall be allowed under Subsections C or D of this section only if the applicable requirements of Subsection F have been satisfied.

A. Credit shall be allowed when the reinsurance is ceded to an assuming insurer that is licensed to transact insurance or reinsurance in this state.

Drafting Note: A state that provides for licensing of reinsurance by line, for consistency should adopt an amended version of Subsection A requiring the assuming insurer to be "licensed to transact reinsurance in this state."

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B. (1) Credit shall be allowed when the reinsurance is ceded to an assuming insurer that is accredited as a reinsurer in this state. An accredited reinsurer is one that:

(a) Files with the commissioner evidence of its submission to this state's jurisdiction;

(b) Submits to this state's authority to examine its books and records;

(c) Is licensed to transact insurance or reinsurance in at least one state, or in the case of a U.S. branch of an alien assuming insurer, is entered through and licensed to transact insurance or reinsurance in at least one state;

(d) Files annually with the commissioner a copy of its annual statement filed with the insurance department of its state of domicile and a copy of its most recent audited financial statement; and

(i) Maintains a surplus as regards policyholders in an amount not less than $20,000,000 and whose accreditation has not been denied by the commissioner within ninety (90) days of its submission; or

(ii) Maintains a surplus as regards policyholders in an amount less than $20,000,000 and whose accreditation has been approved by the commissioner.

(2) Credit shall not be allowed a domestic ceding insurer if the assuming insurer's accreditation has been revoked by the commissioner after notice and hearing.

Drafting Note: To qualify as an accredited reinsurer, an assuming insurer must meet all of the requirements and the standards set forth in Subsection B. If the commissioner of insurance determines that the assuming insurer has failed to continue to meet any of these qualifications, the commissioner may, upon written notice and hearing, revoke accreditation.

C. (1) Credit shall be allowed when the reinsurance is ceded to an assuming insurer that is domiciled in, or in the case of a U.S. branch of an alien assuming insurer is entered through, a state that employs standards regarding credit for reinsurance substantially similar to those applicable under this statute and the assuming insurer or U.S. branch of an alien assuming insurer:

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(a) Maintains a surplus as regards policyholders in an amount not less than $20,000,000; and

(b) Submits to the authority of this state to examine its books and records.

(2) The requirement of Section 2 C(1)(a) does not apply to reinsurance ceded and assumed pursuant to pooling arrangements among insurers in the same holding company system.

Drafting Note: The term "substantially similar" means standards that equal or exceed the standards of the enacting state, as determined by the commissioner of the enacting state. It is expected that the NAIC will maintain a list of states whose laws establish standards that equal or exceed the standards of this model act.

D. (1) Credit shall be allowed when the reinsurance is ceded to an assuming insurer that maintains a trust fund in a qualified U.S. financial institution, as defined in Section 4B, for the payment of the valid claims of its U.S. ceding insurers, their assigns and successors in interest. To enable the commissioner to determine the sufficiency of the trust fund, the assuming insurer shall report annually to the commissioner information substantially the same as that required to be reported on the NAIC Annual Statement form by licensed insurers. The assuming insurer shall submit to examination of its books and records by the commissioner and bear the expense of examination.

(2) (a) Credit for reinsurance shall not be granted under this subsection unless the form of the trust and any amendments to the trust have been approved by:

(i) The commissioner of the state where the trust is domiciled; or

(ii) The commissioner of another state who, pursuant to the terms of the trust instrument, has accepted principal regulatory oversight of the trust.

(b) The form of the trust and any trust amendments also shall be filed with the commissioner of every state in which the ceding insurer beneficiaries of the trust are domiciled. The trust instrument shall provide that contested claims shall be valid and enforceable upon the final order of any court of competent jurisdiction in the United States. The trust shall vest legal title to its assets in its trustees for the benefit of the assuming insurer's U.S. ceding insurers, their assigns and successors in interest. The trust and the assuming

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insurer shall be subject to examination as determined by the commissioner.

(c) The trust shall remain in effect for as long as the assuming insurer has outstanding obligations due under the reinsurance agreements subject to the trust. No later than February 28 of each year the trustee of the trust shall report to the commissioner in writing the balance of the trust and listing the trust's investments at the preceding year-end and shall certify the date of termination of the trust, if so planned, or certify that the trust will not expire prior to the following December 31.

(3) The following requirements apply to the following categories of assuming insurer:

(a) The trust fund for a single assuming insurer shall consist of funds in trust in an amount not less than the assuming insurer's liabilities attributable to reinsurance ceded by U.S. ceding insurers, and, in addition, the assuming insurer shall maintain a trusteed surplus of not less than $20,000,000.

(b) (i) In the case of a group including incorporated and individual unincorporated underwriters:

(I) For reinsurance ceded under reinsurance agreements with an inception, amendment or renewal date on or after August 1, 1995, the trust shall consist of a trusteed account in an amount not less than the group's several liabilities attributable to business ceded by U.S. domiciled ceding insurers to any member of the group;

(II) For reinsurance ceded under reinsurance agreements with an inception date on or before July 31, 1995, and not amended or renewed after that date, notwithstanding the other provisions of this Act, the trust shall consist of a trusteed account in an amount not less than the group's several insurance and reinsurance liabilities attributable to business written in the United States; and

(III) In addition to these trusts, the group shall maintain in trust a trusteed surplus of which $100,000,000 shall be held jointly for the benefit of the U.S.

domiciled ceding insurers of any member of the group for all years of account; and

(ii) The incorporated members of the group shall not be engaged in any business other than underwriting as a member of the group and shall be subject to the same level of regulation and solvency control by the group's domiciliary regulator as are the unincorporated members.

(iii) Within ninety (90) days after its financial statements are due to be filed with the group's domiciliary regulator, the group shall provide to the commissioner an annual certification by the group's domiciliary regulator of the solvency of each underwriter member; or if a certification is unavailable, financial statements, prepared by independent public accountants, of each underwriter member of the group.

(c) In the case of a group of incorporated underwriters under common administration, the group shall:

(i) Have continuously transacted an insurance business outside the United States for at least three (3) years immediately prior to making application for accreditation;

(ii) Maintain aggregate policyholders' surplus of at least $10,000,000,000;

(iii) Maintain a trust fund in an amount not less than the group's several liabilities attributable to business ceded by U.S. domiciled ceding insurers to any member of the group pursuant to reinsurance contracts issued in the name of the group;

(iv) In addition, maintain a joint trusteed surplus of which $100,000,000 shall be held jointly for the benefit of U.S. domiciled ceding insurers of any member of the group as additional security for these liabilities; and

(v) Within ninety (90) days after its financial statements are due to be filed with the group's domiciliary regulator, make available to the commissioner an annual certification of each underwriter member's solvency by the member's domiciliary regulator and financial statements of each

underwriter member of the group prepared by its independent public accountant.

Drafting Note: Unless otherwise stated, "commissioner" refers to the commissioner of insurance in the state where credit or a reduction from liability is taken.

Drafting Note: Consideration was given to deferring to state capital and surplus requirements as a threshold for the trusteed surplus, but it was concluded that, on the basis of risk exposure and current industry security practices, the standards for credit should be higher under Subsection D. The $100,000,000 trusteed surplus requirement for a group including incorporated and individual unincorporated underwriters reflects the higher financial standards currently found among the states for a group of this type. The $20,000,000 trusteed surplus requirement is an option available to assuming insurers that do not satisfy both the licensing and financial standards of Subsection B or C.

E. Credit shall be allowed when the reinsurance is ceded to an assuming insurer not meeting the requirements of Subsections A, B, C or D of this section, but only as to the insurance of risks located in jurisdictions where the reinsurance is required by applicable law or regulation of that jurisdiction.

Drafting Note: For purposes of this subsection, "jurisdiction" refers to those jurisdictions other than the United States and also to any state, district or territory of the United States. Subsection E allows credit to ceding insurers that are mandated by these jurisdictions to cede to state-owned or controlled insurance or reinsurance companies or to participate in pools, guaranty associations or residual market mechanisms.

F. If the assuming insurer is not licensed or accredited to transact insurance or reinsurance in this state, the credit permitted by Subsections C and D of this section shall not be allowed unless the assuming insurer agrees in the reinsurance agreements:

(1) (a) That in the event of the failure of the assuming insurer to perform its obligations under the terms of the reinsurance agreement, the assuming insurer, at the request of the ceding insurer, shall submit to the jurisdiction of any court of competent jurisdiction in any state of the United States, will comply with all requirements necessary to give the court jurisdiction, and will abide by the final decision of the court or of any appellate court in the event of an appeal; and

(b) To designate the commissioner or a designated attorney as its true and lawful attorney upon whom may be served any lawful process in any action, suit or proceeding instituted by or on behalf of the ceding company.

(2) This subsection is not intended to conflict with or override the obligation of the parties to a reinsurance agreement to arbitrate their disputes, if this obligation is created in the agreement.

G. If the assuming insurer does not meet the requirements of Subsections A, B or C, the credit permitted by Subsection D of this section shall not be allowed unless the assuming insurer agrees in the trust agreements to the following conditions:

(1) Notwithstanding any other provisions in the trust instrument, if the trust fund is inadequate because it contains an amount less than the amount required by Subsection D(3) of this section, or if the grantor of the trust has been declared insolvent or placed into receivership, rehabilitation, liquidation or similar proceedings under the laws of its state or country of domicile, the trustee shall comply with an order of the commissioner with regulatory oversight over the trust or with an order of a court of competent jurisdiction directing the trustee to transfer to the commissioner with regulatory oversight all of the assets of the trust fund.

(2) The assets shall be distributed by and claims shall be filed with and valued by the commissioner with regulatory oversight in accordance with the laws of the state in which the trust is domiciled that are applicable to the liquidation of domestic insurance companies.

(3) If the commissioner with regulatory oversight determines that the assets of the trust fund or any part thereof are not necessary to satisfy the claims of the U.S. ceding insurers of the grantor of the trust, the assets or part thereof shall be returned by the commissioner with regulatory oversight to the trustee for distribution in accordance with the trust agreement.

(4) The grantor shall waive any right otherwise available to it under U.S. law that is inconsistent with this provision.

Section 3. Asset or Reduction from Liability for Reinsurance Ceded by a Domestic Insurer to an Assuming Insurer not Meeting the Requirements of Section 2

An asset or a reduction from liability for the reinsurance ceded by a domestic insurer to an assuming insurer not meeting the requirements of Section 2 shall be allowed in an amount not exceeding the liabilities carried by the ceding insurer. The reduction shall be in the amount of funds held by or on behalf of the ceding insurer, including funds held in trust for the ceding insurer, under a reinsurance contract with the assuming insurer as security for the payment of obligations thereunder, if the security is held in the United States subject to withdrawal solely by, and under the exclusive control of, the ceding insurer; or, in the case of a trust, held in a qualified U.S. financial institution, as defined in Section 4B. This security may be in the form of:

A. Cash;

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B. Securities listed by the Securities Valuation Office of the National Association of Insurance Commissioners and qualifying as admitted assets;

C. (1) Clean, irrevocable, unconditional letters of credit, issued or confirmed by a qualified U.S. financial institution, as defined in Section 4A, effective no later than December 31 of the year for which the filing is being made, and in the possession of, or in trust for, the ceding company on or before the filing date of its annual statement;

(2) Letters of credit meeting applicable standards of issuer acceptability as of the dates of their issuance (or confirmation) shall, notwithstanding the issuing (or confirming) institution's subsequent failure to meet applicable standards of issuer acceptability, continue to be acceptable as security until their expiration, extension, renewal, modification or amendment, whichever first occurs; or

Drafting Note: Providing for the continuing acceptability of letters of credit whose issuers were acceptable when the credit support facility was first obtained is intended to avoid abrupt interruptions in the acceptability of credit support arrangements that run for specific periods of time, and thus unnecessary disruptions in the marketplace, on account of the issuing (or confirming) institution's subsequent failure to meet applicable standards of issuer acceptability (whether by virtue of a change in the issuing institution's ability to qualify under the original standards or as a result of revisions to the applicable standards). The provision stipulates that letters of credit acceptable when first obtained will, in the event of the subsequent nonqualification of the issuing (or confirming) institution, continue to be acceptable as security until the account party and beneficiary would first have, in the normal course of business, an opportunity to replace the credit support facility.

D. Any other form of security acceptable to the commissioner.

Drafting Note: There is no implication in the requirement that the security for the payment of obligations must be held under the exclusive control of the ceding insurer that either the reserve liability or the assets held in relation to the reserve liability have not been transferred for the purposes of statutory accounting by the ceding insurer to the reinsurer.

Optional Section Drafting Note: This model act applies only to the domestic ceding insurers of the enacting state. However, if the enacting state wishes to impose credit for reinsurance standards on foreign insurers, the following language should be inserted as Section 4 and the succeeding sections of the model act should be renumbered accordingly:

Section [ ]. Credit Allowed a Foreign Ceding Insurer [Optional]

A. Credit for reinsurance or reduction from liability shall be allowed a foreign ceding insurer to the extent that credit has been allowed by the ceding insurer's state of domicile if:

(1) The state of domicile is accredited by the National Association of Insurance Commissioners; or

(2) Credit or reduction from liability would be allowed under this statute if the foreign ceding insurer were domiciled in this state.

B. Credit for reinsurance or reduction from liability may be disallowed a foreign ceding insurer upon a finding by the commissioner that neither the condition of the reinsurer nor the collateral or other security provided by the reinsurer satisfies the credit for reinsurance requirements of this Act applicable to ceding insurers domiciled in this state.

Section 4. Qualified U.S. Financial Institutions

A. For purposes of Section 3C, a "qualified U.S. financial institution" means an institution that:

(1) Is organized or (in the case of a U.S. office of a foreign banking organization) licensed, under the laws of the United States or any state thereof;

(2) Is regulated, supervised and examined by U.S. federal or state authorities having regulatory authority over banks and trust companies; and

(3) Has been determined by either the commissioner or the Securities Valuation Office of the National Association of Insurance Commissioners to meet such standards of financial condition and standing as are considered necessary and appropriate to regulate the quality of financial institutions whose letters of credit will be acceptable to the commissioner.

Drafting Note: The NAIC's Securities Valuation Office (SVO) maintains, on a current basis, a list of all U.S. financial institutions that have, upon application to the SVO, been determined to meet the eligibility standards of its *Purposes and Procedures Manual*. These standards, developed by the NAIC's Letter of Credit (EX4) Study Group, make use of nationally recognized ratings services, and are more rigorous in the case of foreign banking organizations (whose standby letters of credit must be issued or confirmed by a qualified U.S. financial institution) than those that are applicable to domestic financial institutions whose standby letters of credit would be considered acceptable.

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B. A "qualified U.S. financial institution" means, for purposes of those provisions of this law specifying those institutions that are eligible to act as a fiduciary of a trust, an institution that:

(1) Is organized, or ,in the case of a U.S. branch or agency office of a foreign banking organization, licensed, under the laws of the United States or any state thereof and has been granted authority to operate with fiduciary powers; and

(2) Is regulated, supervised and examined by federal or state authorities having regulatory authority over banks and trust companies.

Drafting Note: Because assets held in a fiduciary capacity are not subject to the claims of the trustee's creditors, and because the trust departments of all U.S. financial institutions (including U.S. branch or agency offices of foreign banking organizations having fiduciary powers in the U.S.) are regulated, supervised and examined by the institution's primary U.S. bank regulatory authority (federal or state), there is no need to apply additional standards measuring the financial condition or standing of the institution, as in the case of determining those institutions whose standby letter of credit obligations will be considered acceptable.

Section 5. Rules and Regulations

The commissioner may adopt rules and regulations implementing the provisions of this law.

Drafting Note: It is recognized that credit for reinsurance also can be affected by other sections of the enacting state's code, e.g., a statutory insolvency clause or an intermediary clause. It is recommended that states that do not have a statutory insolvency clause or an intermediary clause consider incorporating such clauses in their legislation.

Section 6. Reinsurance Agreements Affected

This Act shall apply to all cessions after the effective date of this Act under reinsurance agreements that have an inception, anniversary or renewal date not less than six (6) months after the effective date of this Act.

Drafting Note: The enacting state may wish to provide a delay in the applicability greater than six (6) months to allow time for the insurance commissioner to promulgate regulations and to allow reinsurers to prepare and submit qualifying data.

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Legislative History (All references are to the Proceedings of the NAIC).

1984 Proc. II 9, 29, 822, 836, 837-839 (adopted).
1986 Proc. I 9-10, 24, 799, 811, 812 (corrected).
1987 Proc. II 15, 24, 444-448, 832, 854, 856 (amended and reprinted).
1990 Proc. I 12-14, 851, 857-861 (amended at special plenary session September 1989 and reprinted).
1990 Proc. I 6, 30, 840, 872, 875-878 (technical amendments adopted at winter plenary and reprinted).
1990 Proc. II 7, 18, 748, 766, 780-783 (amended).
1993 Proc. 4th Quarter 6, 31, 835-836, 874, 891 (amended).
1996 Proc. 2nd Quarter 12, 12-13, 24, 862 (amended and reprinted).

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CREDIT FOR REINSURANCE MODEL REGULATION

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Section 1. Authority

This regulation is promulgated pursuant to the authority granted by Sections [insert applicable section number] and [insert applicable section number] of the Insurance Code.

Section 2. Purpose

The purpose of this regulation is to set forth rules and procedural requirements that the commissioner deems necessary to carry out the provisions of the [cite state law equivalent to the Credit for Reinsurance Model Law] (the Act). The actions and information required by this regulation are declared to be necessary and appropriate in the public interest and for the protection of the ceding insurers in this state.

Section 3. Severability

If any provision of this regulation, or the application of the provision to any person or circumstance, is held invalid, the remainder of the regulation, and the application of the provision to persons or circumstances other than those to which it is held invalid, shall not be affected.

Section 4. Credit for Reinsurance—Reinsurer Licensed in this State

Pursuant to Section [cite state law equivalent of Section 2A of the Credit for Reinsurance Model Law] the commissioner shall allow credit for reinsurance ceded by a domestic insurer to an

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assuming insurer that was licensed in this state as of any date on which statutory financial statement credit for reinsurance is claimed.

Drafting Note: "Statutory financial statement" means quarterly, annual or other financial statements required by state law. The drafters conditioned the recognition of credit on matters reported, existing or occurring "as of any date on which" statutory financial statement credit is claimed or a financial statement is filed to ensure that requisite conditions for credit exist at the time the credit is claimed or reported and that the conditions remained satisfied at all times thereafter until information reported in one statement was replaced by information reported in a subsequently filed statement. Insurers are to satisfy requisite conditions at the time credit is first taken and shall maintain compliance at all times thereafter in which the credit is taken. The drafters believe the requirements to be perpetual, not periodic.

Section 5. Credit for Reinsurance—Accredited Reinsurers

A. Pursuant to Section [cite state law equivalent of Section 2B of the Credit for Reinsurance Model Law] the commissioner shall allow credit for reinsurance ceded by a domestic insurer to an assuming insurer that is accredited as a reinsurer in this state as of any date on which statutory financial statement credit for reinsurance is claimed. An accredited reinsurer:

(1) Files a properly executed Form AR-1 (attached as an exhibit to this regulation) as evidence of its submission to this state's jurisdiction and to this state's authority to examine its books and records;

(2) Files with the commissioner a certified copy of a certificate of authority or other acceptable evidence that it is licensed to transact insurance or reinsurance in at least one state, or, in the case of a U.S. branch of an alien assuming insurer, is entered through and licensed to transact insurance or reinsurance in at least one state;

(3) Files annually with the commissioner a copy of its annual statement filed with the insurance department of its state of domicile or, in the case of an alien assuming insurer, with the state through which it is entered and in which it is licensed to transact insurance or reinsurance, and a copy of its most recent audited financial statement; and

(a) Maintains a surplus as regards policyholders in an amount not less than $20,000,000 and whose accreditation has not been denied by the commissioner within ninety (90) days of its submission; or

(b) Maintains a surplus as regards policyholders of less than $20,000,000, and whose accreditation has been approved by the commissioner.

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B. If the commissioner determines that the assuming insurer has failed to meet or maintain any of these qualifications, the commissioner may upon written notice and hearing revoke the accreditation. Credit shall not be allowed a domestic ceding insurer if the assuming insurer's accreditation has been revoked by the commissioner.

Section 6. Credit for Reinsurance—Reinsurer Domiciled in Another State

A. Pursuant to Section [cite state law equivalent to Section 2C of the Credit for Reinsurance Model Law] the commissioner shall allow credit for reinsurance ceded by a domestic insurer to an assuming insurer that as of any date on which statutory financial statement credit for reinsurance is claimed:

(1) Is domiciled in (or, in the case of a U.S. branch of an alien assuming insurer, is entered through) a state that employs standards regarding credit for reinsurance substantially similar to those applicable under the Act and this regulation;

Drafting Note: This subsection is intended to apply to an assuming insurer domiciled in (or, in the case of the U.S. branch of an alien assuming insurer, entered through) another state only if the assuming insurer also is licensed in that state and is therefore subject to the application of the state's credit for reinsurance standards as the result of the imposition of licensure requirements and also regulatory oversight and examination as a domiciliary company.

(2) Maintains a surplus as regards policyholders in an amount not less than $20,000,000; and

(3) Files a properly executed Form AR-1 with the commissioner as evidence of its submission to this state's authority to examine its books and records.

B. The provisions of this section relating to surplus as regards policyholders shall not apply to reinsurance ceded and assumed pursuant to pooling arrangements among insurers in the same holding company system. As used in this section, "substantially similar" standards means credit for reinsurance standards that the commissioner determines equal or exceed the standards of the Act and this regulation.

Section 7. Credit for Reinsurance—Reinsurers Maintaining Trust Funds

A. Pursuant to Section [cite state law equivalent to Section 2D of the Credit for Reinsurance Model Law] the commissioner shall allow credit for reinsurance ceded by a domestic insurer to an assuming insurer which, as of any date on which statutory financial statement credit for reinsurance is claimed, and thereafter for so long as credit for reinsurance is claimed, maintains a trust fund in an amount prescribed below in a qualified U. S. financial institution as defined in Section

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[cite state law equivalent to Section 4B of the Credit for Reinsurance Model Law] of the Act, for the payment of the valid claims of its U.S. domiciled ceding insurers, their assigns and successors in interest. The assuming insurer shall report annually to the commissioner substantially the same information as that required to be reported on the National Association of Insurance Commissioners (NAIC) annual statement form by licensed insurers, to enable the commissioner to determine the sufficiency of the trust fund.

B. The following requirements apply to the following categories of assuming insurer:

(1) The trust fund for a single assuming insurer shall consist of funds in trust in an amount not less than the assuming insurer's liabilities attributable to reinsurance ceded by U.S. domiciled insurers, and in addition, the assuming insurer shall maintain a trusteed surplus of not less than $20,000,000.

(2) (a) The trust fund for a group including incorporated and individual unincorporated underwriters shall consist of:

(i) For reinsurance ceded under reinsurance agreements with an inception, amendment or renewal date on or after August 1, 1995, funds in trust in an amount not less than the group's several liabilities attributable to business ceded by U. S. domiciled ceding insurers to any member of the group;

(ii) For reinsurance ceded under reinsurance agreements with an inception date on or before July 31, 1995, and not amended or renewed after that date, notwithstanding the other provisions of this regulation, funds in trust in an amount not less than the group's several insurance and reinsurance liabilities attributable to business written in the United States; and

(iii) In addition to these trusts, the group shall maintain a trusteed surplus of which $100,000,000 shall be held jointly for the benefit of the U. S. domiciled ceding insurers of any member of the group for all the years of account.

(b) The incorporated members of the group shall not be engaged in any business other than underwriting as a member of the group and shall be subject to the same level of regulation and solvency control by the group's domiciliary regulator as are the unincorporated members. The group shall, within ninety (90) days

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after its financial statements are due to be filed with the group's domiciliary regulator, provide to the commissioner:

(i) An annual certification by the group's domiciliary regulator of the solvency of each underwriter member of the group; or

(ii) If a certification is unavailable, a financial statement, prepared by independent public accountants, of each underwriter member of the group.

(3) (a) The trust fund for a group of incorporated insurers under common administration, whose members possess aggregate policyholders surplus of $10,000,000,000 (calculated and reported in substantially the same manner as prescribed by the annual statement instructions and *Accounting Practices and Procedures Manual* of the NAIC) and which has continuously transacted an insurance business outside the United States for at least three (3) years immediately prior to making application for accreditation, shall:

(i) Consist of funds in trust in an amount not less than the assuming insurers' several liabilities attributable to business ceded by U. S. domiciled ceding insurers to any members of the group pursuant to reinsurance contracts issued in the name of such group and;

(ii) Maintain a joint trusteed surplus of which $100,000,000 shall be held jointly for the benefit of U. S. domiciled ceding insurers of any member of the group; and

(iii) File a properly executed Form AR-1 as evidence of the submission to this state's authority to examine the books and records of any of its members and shall certify that any member examined will bear the expense of any such examination.

(b) Within ninety (90) days after the statements are due to be filed with the group's domiciliary regulator, the group shall file with the commissioner an annual certification of each underwriter member's solvency by the member's domiciliary regulators, and financial statements, prepared by independent public accountants, of each underwriter member of the group.

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C. (1) Credit for reinsurance shall not be granted unless the form of the trust and any amendments to the trust have been approved by either the commissioner of the state where the trust is domiciled or the commissioner of another state who, pursuant to the terms of the trust instrument, has accepted responsibility for regulatory oversight of the trust. The form of the trust and any trust amendments also shall be filed with the commissioner of every state in which the ceding insurer beneficiaries of the trust are domiciled. The trust instrument shall provide that:

(a) Contested claims shall be valid and enforceable out of funds in trust to the extent remaining unsatisfied thirty (30) days after entry of the final order of any court of competent jurisdiction in the United States;

(b) Legal title to the assets of the trust shall be vested in the trustee for the benefit of the grantor's U. S. ceding insurers, their assigns and successors in interest;

(c) The trust shall be subject to examination as determined by the commissioner;

(d) The trust shall remain in effect for as long as the assuming insurer, or any member or former member of a group of insurers, shall have outstanding obligations under reinsurance agreements subject to the trust; and

(e) No later than February 28 of each year the trustee of the trust shall report to the commissioner in writing setting forth the balance in the trust and listing the trust's investments at the preceding year-end, and shall certify the date of termination of the trust, if so planned, or certify that the trust shall not expire prior to the following December 31.

(2) (a) Notwithstanding any other provisions in the trust instrument, if the trust fund is inadequate because it contains an amount less than the amount required by this subsection or if the grantor of the trust has been declared insolvent or placed into receivership, rehabilitation, liquidation or similar proceedings under the laws of its state or country of domicile, the trustee shall comply with an order of the commissioner with regulatory oversight over the trust or with an order of a court of competent jurisdiction directing the trustee to transfer to the commissioner with regulatory oversight over the trust or other designated receiver all of the assets of the trust fund.

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(b) The assets shall be distributed by and claims shall be filed with and valued by the commissioner with regulatory oversight over the trust in accordance with the laws of the state in which the trust is domiciled applicable to the liquidation of domestic insurance companies.

(c) If the commissioner with regulatory oversight over the trust determines that the assets of the trust fund or any part thereof are not necessary to satisfy the claims of the U. S. beneficiaries of the trust, the commissioner with regulatory oversight over the trust shall return the assets, or any part thereof, to the trustee for distribution in accordance with the trust agreement.

(d) The grantor shall waive any right otherwise available to it under U.S. law that is inconsistent with this provision.

D. For purposes of this regulation, the term "liabilities" shall mean the assuming insurer's gross liabilities attributable to reinsurance ceded by U. S. domiciled insurers that are not otherwise secured by acceptable means, and, shall include:

(1) For business ceded by domestic insurers authorized to write accident and health, and property and casualty insurance:

(a) Losses and allocated loss expenses paid by the ceding insurer, recoverable from the assuming insurer;

(b) Reserves for losses reported and outstanding;

(c) Reserves for losses incurred but not reported;

(d) Reserves for allocated loss expenses; and

(e) Unearned premiums.

(2) For business ceded by domestic insurers authorized to write life, health and annuity insurance:

(a) Aggregate reserves for life policies and contracts net of policy loans and net due and deferred premiums;

(b) Aggregate reserves for accident and health policies;

(c) Deposit funds and other liabilities without life or disability contingencies; and

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(d) Liabilities for policy and contract claims.

E. Assets deposited in trusts established pursuant to [cite state law equivalent to Section 2 of the Credit for Reinsurance Model Law] and this section shall be valued according to their fair market value and shall consist only of cash in U.S. dollars, certificates of deposit issued by a U.S. financial institution as defined in [cite state law equivalent of Section 4A of the Credit for Reinsurance Model Law], clean, irrevocable, unconditional and "evergreen" letters of credit issued or confirmed by a qualified U.S. financial institution, as defined in [cite state law equivalent of Section 4A of the Credit for Reinsurance Model Law], and investments of the type specified in this subsection, but investments in or issued by an entity controlling, controlled by or under common control with either the grantor or beneficiary of the trust shall not exceed five percent (5%) of total investments. No more than twenty percent (20%) of the total of the investments in the trust may be foreign investments authorized under Paragraphs (1)(e), (3), (6)(b) or (7) of this subsection, and no more than ten percent (10%) of the total of the investments in the trust may be securities denominated in foreign currencies. For purposes of applying the preceding sentence, a depository receipt denominated in U.S. dollars and representing rights conferred by a foreign security shall be classified as a foreign investment denominated in a foreign currency. The assets of a trust established to satisfy the requirements of Section [cite state law equivalent to Section 2 of the Credit for Reinsurance Model Law] shall be invested only as follows:

(1) Government obligations that are not in default as to principal or interest, that are valid and legally authorized and that are issued, assumed or guaranteed by:

(a) The United States or by any agency or instrumentality of the United States;

(b) A state of the United States;

(c) A territory, possession or other governmental unit of the United States;

(d) An agency or instrumentality of a governmental unit referred to in Subparagraphs (b) and (c) of this paragraph if the obligations shall be by law (statutory of otherwise) payable, as to both principal and interest, from taxes levied or by law required to be levied or from adequate special revenues pledged or otherwise appropriated or by law required to be provided for making these payments, but shall not be obligations eligible for investment under this paragraph if payable solely out of special assessments on properties benefited by local improvements; or

(e) The government of any other country that is a member of the Organization for Economic Cooperation and Development and whose government obligations are rated A or higher, or the equivalent, by a rating agency recognized by the Securities Valuation Office of the NAIC;

(2) Obligations that are issued in the United States, or that are dollar denominated and issued in a non-U.S. market, by a solvent U. S. institution (other than an insurance company) or that are assumed or guaranteed by a solvent U. S. institution (other than an insurance company) and that are not in default as to principal or interest if the obligations:

(a) Are rated A or higher (or the equivalent) by a securities rating agency recognized by the Securities Valuation Office of the NAIC, or if not so rated, are similar in structure and other material respects to other obligations of the same institution that are so rated;

(b) Are insured by at least one authorized insurer (other than the investing insurer or a parent, subsidiary or affiliate of the investing insurer) licensed to insure obligations in this state and, after considering the insurance, are rated AAA (or the equivalent) by a securities rating agency recognized by the Securities Valuation Office of the NAIC; or

(c) Have been designated as Class One or Class Two by the Securities Valuation Office of the NAIC;

(3) Obligations issued, assumed or guaranteed by a solvent non-U. S. institution chartered in a country that is a member of the Organization for Economic Cooperation and Development or obligations of U.S. corporations issued in a non-U.S. currency, provided that in either case the obligations are rated A or higher, or the equivalent, by a rating agency recognized by the Securities Valuation Office of the NAIC;

(4) An investment made pursuant to the provisions of Paragraph (1), (2) or (3) of this subsection shall be subject to the following additional limitations:

(a) An investment in or loan upon the obligations of an institution other than an institution that issues mortgage-related securities shall not exceed five percent (5%) of the assets of the trust;

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(b) An investment in any one mortgage-related security shall not exceed five percent (5%) of the assets of the trust;

(c) The aggregate total investment in mortgage-related securities shall not exceed twenty-five percent (25%) of the assets of the trust; and

(d) Preferred or guaranteed shares issued or guaranteed by a solvent U. S. institution are permissible investments if all of the institution's obligations are eligible as investments under Paragraphs (2)(a) and (2)(c) of this subsection, but shall not exceed two percent (2%) of the assets of the trust.

(5) As used in this regulation:

(a) "Mortgage-related security" means an obligation that is rated AA or higher (or the equivalent) by a securities rating agency recognized by the Securities Valuation Office of the NAIC and that either:

(i) Represents ownership of one or more promissory notes or certificates of interest or participation in the notes (including any rights designed to assure servicing of, or the receipt or timeliness of receipt by the holders of the notes, certificates, or participation of amounts payable under, the notes, certificates or participation), that:

(I) Are directly secured by a first lien on a single parcel of real estate, including stock allocated to a dwelling unit in a residential cooperative housing corporation, upon which is located a dwelling or mixed residential and commercial structure, or on a residential manufactured home as defined in 42 U.S.C.A. Section 5402(6), whether the manufactured home is considered real or personal property under the laws of the state in which it is located; and

(II) Were originated by a savings and loan association, savings bank, commercial bank, credit union, insurance company, or similar institution that is supervised and examined by a federal or state housing authority, or by a mortgagee approved by the Secretary of Housing and Urban Development pursuant to 12 U.S.C.A. Sections 1709 and 1715-b, or, where the notes involve a lien on the

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manufactured home, by an institution or by a financial institution approved for insurance by the Secretary of Housing and Urban Development pursuant to 12 U.S.C.A. Section 1703; or

(ii) Is secured by one or more promissory notes or certificates of deposit or participations in the notes (with or without recourse to the insurer of the notes) and, by its terms, provides for payments of principal in relation to payments, or reasonable projections of payments, or notes meeting the requirements of Items (i)(I) and (i)(II) of this subsection;

(b) "Promissory note," when used in connection with a manufactured home, shall also include a loan, advance or credit sale as evidenced by a retail installment sales contract or other instrument.

(6) Equity interests

(a) Investments in common shares or partnership interests of a solvent U. S. institution are permissible if:

(i) Its obligations and preferred shares, if any, are eligible as investments under this subsection; and

(ii) The equity interests of the institution (except an insurance company) are registered on a national securities exchange as provided in the Securities Exchange Act of 1934, 15 U.S.C. §§ 78a to 78kk or otherwise registered pursuant to that Act, and if otherwise registered, price quotations for them are furnished through a nationwide automated quotations system approved by the National Association of Securities Dealers, Inc. A trust shall not invest in equity interests under this paragraph an amount exceeding one percent (1%) of the assets of the trust even though the equity interests are not so registered and are not issued by an insurance company;

(b) Investments in common shares of a solvent institution organized under the laws of a country that is a member of the Organization for Economic Cooperation and Development, if:

(i) All its obligations are rated A or higher, or the equivalent, by a rating agency recognized by the Securities Valuation Office of the NAIC; and

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(ii) The equity interests of the institution are registered on a securities exchange regulated by the government of a country that is a member of the Organization for Economic Cooperation and Development;

(c) An investment in or loan upon any one institution's outstanding equity interests shall not exceed one percent (1%) of the assets of the trust. The cost of an investment in equity interests made pursuant to this paragraph, when added to the aggregate cost of other investments in equity interests then held pursuant to this paragraph, shall not exceed ten percent (10%) of the assets in the trust;

(7) Obligations issued, assumed or guaranteed by a multinational development bank, provided the obligations are rated A or higher, or the equivalent, by a rating agency recognized by the Securities Valuation Office of the NAIC.

Drafting Note: Banks such as the International Bank for Reconstruction and Development, European Bank for Reconstruction and Development, Inter-American Development Bank, Asian Development Bank, African Development Bank, International Finance Corporation are intended to qualify under this section.

(8) Investment companies

(a) Securities of an investment company registered pursuant to the Investment Company Act of 1940, 15 U.S.C. § 80a, are permissible investments if the investment company:

(i) Invests at least ninety percent (90%) of its assets in the types of securities that qualify as an investment under Paragraph (1), (2) or (3) of this subsection or invests in securities that are determined by the commissioner to be substantively similar to the types of securities set forth in Paragraph (1), (2) or (3) of this subsection; or

(ii) Invests at least ninety percent (90%) of its assets in the types of equity interests that qualify as an investment under Paragraph (6)(a) of this subsection;

(b) Investments made by a trust in investment companies under this paragraph shall not exceed the following limitations:

(i) An investment in an investment company qualifying under Subparagraph (a)(i) of this paragraph shall not exceed ten percent (10%) of the assets in the trust and the aggregate

amount of investment in qualifying investment companies shall not exceed twenty-five percent (25%) of the assets in the trust; and

(ii) Investments in an investment company qualifying under Subparagraph (a)(ii) of this paragraph shall not exceed five percent (5%) of the assets in the trust and the aggregate amount of investment in qualifying investment companies shall be included when calculating the permissible aggregate value of equity interests pursuant to Paragraph (6)(a) of this subsection.

(9) Letters of Credit

(a) In order for a letter of credit to qualify as an asset of the trust, the trustee shall have the right and the obligation pursuant to the deed of trust or some other binding agreement (as duly approved by the commissioner), to immediately draw down the full amount of the letter of credit and hold the proceeds in trust for the beneficiaries of the trust if the letter of credit will otherwise expire without being renewed or replaced.

(b) The trust agreement shall provide that the trustee shall be liable for its negligence, willful misconduct or lack of good faith. The failure of the trustee to draw against the letter of credit in circumstances where such draw would be required shall be deemed to be negligence and/or willful misconduct.

F. A specific security provided to a ceding insurer by an assuming insurer pursuant to Section 9 of this regulation shall be applied, until exhausted, to the payment of liabilities of the assuming insurer to the ceding insurer holding the specific security prior to, and as a condition precedent for, presentation of a claim by the ceding insurer for payment by a trustee of a trust established by the assuming insurer pursuant to this section.

Section 8. Credit for Reinsurance Required by Law

Pursuant to Section [cite state law equivalent of Section 2E of the Credit for Reinsurance Model Law], the commissioner shall allow credit for reinsurance ceded by a domestic insurer to an assuming insurer not meeting the requirements of Section [cite state law equivalent of Sections 2A, B, C, D or other appropriate section of the of the Credit for Reinsurance Model Law] but only as to the insurance of risks located in jurisdictions where the reinsurance is required by the applicable law or regulation of that jurisdiction. As used in this section, "jurisdiction" means a state, district or territory of the United States and any lawful national government.

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Drafting Note: Examples of assuming insurers for which credit may be allowed under this section include state owned or controlled insurance or reinsurance companies or ceding company participation in pools, guaranty associations or residual market mechanisms required by statute, regulation or administrative order.

Section 9. Asset or Reduction from Liability for Reinsurance Ceded to an Unauthorized Assuming Insurer not Meeting the Requirements of Sections 4 Through 8

A. Pursuant to Section [cite state law equivalent of Section 3 of the Credit for Reinsurance Model Law], the commissioner shall allow a reduction from liability for reinsurance ceded by a domestic insurer to an assuming insurer not meeting the requirements of Section [cite state law equivalent of Section 2 or other appropriate section of the Credit for Reinsurance Model Law] in an amount not exceeding the liabilities carried by the ceding insurer. The reduction shall be in the amount of funds held by or on behalf of the ceding insurer, including funds held in trust for the exclusive benefit of the ceding insurer, under a reinsurance contract with such assuming insurer as security for the payment of obligations under the reinsurance contract. The security shall be held in the United States subject to withdrawal solely by, and under the exclusive control of, the ceding insurer or, in the case of a trust, held in a qualified United States financial institution as defined in Section [cite state law equivalent of Section 4B of the Credit for Reinsurance Model Law] This security may be in the form of any of the following:

(1) Cash;

(2) Securities listed by the Securities Valuation Office of the NAIC and qualifying as admitted assets;

(3) Clean, irrevocable, unconditional and "evergreen" letters of credit issued or confirmed by a qualified United States institution, as defined in Section [cite state law equivalent of Section 4A of the Credit for Reinsurance Model Law], effective no later than December 31 of the year for which filing is being made, and in the possession of, or in trust for, the ceding company on or before the filing date of its annual statement. Letters of credit meeting applicable standards of issuer acceptability as of the dates of their issuance (or confirmation) shall, notwithstanding the issuing (or confirming) institution's subsequent failure to meet applicable standards of issuer acceptability, continue to be acceptable as security until their expiration, extension, renewal, modification or amendment, whichever first occurs; or

(4) Any other form of security acceptable to the commissioner.

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B. An admitted asset or a reduction from liability for reinsurance ceded to an unauthorized assuming insurer pursuant to this section shall be allowed only when the requirements of Section 13 and the applicable portions of Sections 10, 11 and 12 of this regulation have been satisfied.

Section 10. Trust Agreements Qualified under Section 9

A. As used in this section:

(1) "Beneficiary" means the entity for whose sole benefit the trust has been established and any successor of the beneficiary by operation of law. If a court of law appoints a successor in interest to the named beneficiary, then the named beneficiary includes and is limited to the court appointed domiciliary receiver (including conservator, rehabilitator or liquidator).

Drafting Note: The NAIC has adopted the above definition as part of the "Uniform Letter of Credit." However, the state may choose to utilize the following definition: "Beneficiary" includes any successor by operation of law of the named beneficiary, including without limitation any liquidator, rehabilitator, receiver or conservator.

(2) "Grantor" means the entity that has established a trust for the sole benefit of the beneficiary. When established in conjunction with a reinsurance agreement, the grantor is the unlicensed, unaccredited assuming insurer.

(3) "Obligations," as used Subsection B(11) of this section means:

(a) Reinsured losses and allocated loss expenses paid by the ceding company, but not recovered from the assuming insurer;

(b) Reserves for reinsured losses reported and outstanding;

(c) Reserves for reinsured losses incurred but not reported; and

(d) Reserves for allocated reinsured loss expenses and unearned premiums.

B. Required conditions.

(1) The trust agreement shall be entered into between the beneficiary, the grantor and a trustee, which shall be a qualified United States financial institution as defined in Section [insert citation to state law equivalent to Section 4B of the Credit for Reinsurance Model Law].

(2) The trust agreement shall create a trust account into which assets shall be deposited.

(3) All assets in the trust account shall be held by the trustee at the trustee's office in the United States .

(4) The trust agreement shall provide that:

(a) The beneficiary shall have the right to withdraw assets from the trust account at any time, without notice to the grantor, subject only to written notice from the beneficiary to the trustee;

(b) No other statement or document is required to be presented to withdraw assets, except that the beneficiary may be required to acknowledge receipt of withdrawn assets;

(c) It is not subject to any conditions or qualifications outside of the trust agreement; and

(d) It shall not contain references to any other agreements or documents except as provided for in Paragraph (11) of this subsection.

(5) The trust agreement shall be established for the sole benefit of the beneficiary.

(6) The trust agreement shall require the trustee to:

(a) Receive assets and hold all assets in a safe place;

(b) Determine that all assets are in such form that the beneficiary, or the trustee upon direction by the beneficiary, may whenever necessary negotiate any such assets, without consent or signature from the grantor or any other person or entity;

(c) Furnish to the grantor and the beneficiary a statement of all assets in the trust account upon its inception and at intervals no less frequent than the end of each calendar quarter;

(d) Notify the grantor and the beneficiary within ten (10) days, of any deposits to or withdrawals from the trust account;

(e) Upon written demand of the beneficiary, immediately take any and all steps necessary to transfer absolutely and unequivocally all right, title and interest in the assets held in the trust account to the beneficiary and deliver physical custody of the assets to the beneficiary; and

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(f) Allow no substitutions or withdrawals of assets from the trust account, except on written instructions from the beneficiary, except that the trustee may, without the consent of but with notice to the beneficiary, upon call or maturity of any trust asset, withdraw such asset upon condition that the proceeds are paid into the trust account.

(7) The trust agreement shall provide that at least thirty (30) days, but not more than forty-five (45) days, prior to termination of the trust account, written notification of termination shall be delivered by the trustee to the beneficiary.

(8) The trust agreement shall be made subject to and governed by the laws of the state in which the trust is domiciled.

(9) The trust agreement shall prohibit invasion of the trust corpus for the purpose of paying commission to, or reimbursing the expenses of, the trustee. In order for a letter of credit to qualify as an asset of the trust, the trustee shall have the right and the obligation pursuant to the deed of trust or some other binding agreement (as duly approved by the commissioner), to immediately draw down the full amount of the letter of credit and hold the proceeds in trust for the beneficiaries of the trust if the letter of credit will otherwise expire without being renewed or replaced.

(10) The trust agreement shall provide that the trustee shall be liable for its negligence, willful misconduct or lack of good faith. The failure of the trustee to draw against the letter of credit in circumstances where such draw would be required shall be deemed to be negligence and/or willful misconduct.

(11) Notwithstanding other provisions of this regulation, when a trust agreement is established in conjunction with a reinsurance agreement covering risks other than life, annuities and accident and health, where it is customary practice to provide a trust agreement for a specific purpose, the trust agreement may provide that the ceding insurer shall undertake to use and apply amounts drawn upon the trust account, without diminution because of the insolvency of the ceding insurer or the assuming insurer, only for the following purposes:

(a) To pay or reimburse the ceding insurer for the assuming insurer's share under the specific reinsurance agreement regarding any losses and allocated loss expenses paid by the ceding insurer, but not recovered from the assuming insurer, or for unearned

premiums due to the ceding insurer if not otherwise paid by the assuming insurer;

(b) To make payment to the assuming insurer of any amounts held in the trust account that exceed 102 percent of the actual amount required to fund the assuming insurer's obligations under the specific reinsurance agreement; or

(c) Where the ceding insurer has received notification of termination of the trust account and where the assuming insurer's entire obligations under the specific reinsurance agreement remain unliquidated and undischarged ten (10) days prior to the termination date, to withdraw amounts equal to the obligations and deposit those amounts in a separate account, in the name of the ceding insurer in any qualified U. S. financial institution as defined in Section [insert citation to state law equivalent of Section 4B of the Credit for Reinsurance Model Law] apart from its general assets, in trust for such uses and purposes specified in Subparagraphs (a) and (b) above as may remain executory after such withdrawal and for any period after the termination date.

(12) Notwithstanding other provisions of this regulation, when a trust agreement is established to meet the requirements of Section 9 in conjunction with a reinsurance agreement covering life, annuities or accident and health risks, where it is customary to provide a trust agreement for a specific purpose, the trust agreement may provide that the ceding insurer shall undertake to use and apply amounts drawn upon the trust account, without diminution because of the insolvency of the ceding insurer or the assuming insurer, only for the following purposes:

(a) To pay or reimburse the ceding insurer for:

(i) The assuming insurer's share under the specific reinsurance agreement of premiums returned, but not yet recovered from the assuming insurer, to the owners of policies reinsured under the reinsurance agreement on account of cancellations of the policies; and

(ii) The assuming insurer's share under the specific reinsurance agreement of surrenders and benefits or losses paid by the ceding insurer, but not yet recovered from the assuming insurer, under the terms and provisions of the policies reinsured under the reinsurance agreement;

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(b) To pay to the assuming insurer amounts held in the trust account in excess of the amount necessary to secure the credit or reduction from liability for reinsurance taken by the ceding insurer; or

(c) Where the ceding insurer has received notification of termination of the trust and where the assuming insurer's entire obligations under the specific reinsurance agreement remain unliquidated and undischarged ten (10) days prior to the termination date, to withdraw amounts equal to the assuming insurer's share of liabilities, to the extent that the liabilities have not yet been funded by the assuming insurer, and deposit those amounts in a separate account, in the name of the ceding insurer in any qualified U. S. financial institution apart from its general assets, in trust for the uses and purposes specified in Subparagraphs (a) and (b) of this paragraph as may remain executory after withdrawal and for any period after the termination date.

(13) The reinsurance agreement may, but need not, contain the provisions required in Subsection D(1)(b) of this section, so long as these required conditions are included in the trust agreement.

(14) Notwithstanding any other provisions in the trust instrument, if the grantor of the trust has been declared insolvent or placed into receivership, rehabilitation, liquidation or similar proceedings under the laws of its state or country of domicile, the trustee shall comply with an order of the commissioner with regulatory oversight over the trust or court of competent jurisdiction directing the trustee to transfer to the commissioner with regulatory oversight or other designated receiver all of the assets of the trust fund. The assets shall be applied in accordance with the priority statutes and laws of the state in which the trust is domiciled applicable to the assets of insurance companies in liquidation. If the commissioner with regulatory oversight determines that the assets of the trust fund or any part thereof are not necessary to satisfy claims of the U. S. beneficiaries of the trust, the assets or any part of them shall be returned to the trustee for distribution in accordance with the trust agreement.

C. Permitted conditions.

(1) The trust agreement may provide that the trustee may resign upon delivery of a written notice of resignation, effective not less than ninety (90) days after the beneficiary and grantor receive the notice and that the trustee may be removed by the grantor by delivery to the trustee and the beneficiary of a written notice of removal, effective not less than ninety (90) days after the trustee and the beneficiary receive the notice, provided that no such resignation or removal shall be effective until a successor trustee has been

duly appointed and approved by the beneficiary and the grantor and all assets in the trust have been duly transferred to the new trustee.

(2) The grantor may have the full and unqualified right to vote any shares of stock in the trust account and to receive from time to time payments of any dividends or interest upon any shares of stock or obligations included in the trust account. Any interest or dividends shall be either forwarded promptly upon receipt to the grantor or deposited in a separate account established in the grantor's name.

(3) The trustee may be given authority to invest, and accept substitutions of, any funds in the account, provided that no investment or substitution shall be made without prior approval of the beneficiary, unless the trust agreement specifies categories of investments acceptable to the beneficiary and authorizes the trustee to invest funds and to accept substitutions that the trustee determines are at least equal in market value to the assets withdrawn and that are consistent with the restrictions in Subsection D(1)(b) of this section.

(4) The trust agreement may provide that the beneficiary may at any time designate a party to which all or part of the trust assets are to be transferred. Transfer may be conditioned upon the trustee receiving, prior to or simultaneously, other specified assets.

(5) The trust agreement may provide that, upon termination of the trust account, all assets not previously withdrawn by the beneficiary shall, with written approval by the beneficiary, be delivered over to the grantor.

D. Additional conditions applicable to reinsurance agreements:

(1) A reinsurance agreement may contain provisions that:

(a) Require the assuming insurer to enter into a trust agreement and to establish a trust account for the benefit of the ceding insurer, and specifying what the agreement is to cover;

(b) Stipulate that assets deposited in the trust account shall be valued according to their current fair market value and shall consist only of cash inUnited States dollars , certificates of deposit issued by a United States bank and payable in United States dollars , and investments permitted by the Insurance Code or any combination of the above, provided investments in or issued by an entity controlling, controlled by or under common control with either the grantor or the beneficiary of the trust shall not exceed five percent (5%) of total investments. The reinsurance agreement may further

specify the types of investments to be deposited. Where a trust agreement is entered into in conjunction with a reinsurance agreement covering risks other than life, annuities and accident and health, then the trust agreement may contain the provisions required by this paragraph in lieu of including such provisions in the reinsurance agreement;

(c) Require the assuming insurer, prior to depositing assets with the trustee, to execute assignments or endorsements in blank, or to transfer legal title to the trustee of all shares, obligations or any other assets requiring assignments, in order that the ceding insurer, or the trustee upon the direction of the ceding insurer, may whenever necessary negotiate these assets without consent or signature from the assuming insurer or any other entity;

(d) Require that all settlements of account between the ceding insurer and the assuming insurer be made in cash or its equivalent; and

(e) Stipulate that the assuming insurer and the ceding insurer agree that the assets in the trust account, established pursuant to the provisions of the reinsurance agreement, may be withdrawn by the ceding insurer at any time, notwithstanding any other provisions in the reinsurance agreement, and shall be utilized and applied by the ceding insurer or its successors in interest by operation of law, including without limitation any liquidator, rehabilitator, receiver or conservator of such company, without diminution because of insolvency on the part of the ceding insurer or the assuming insurer, only for the following purposes:

(i) To pay or reimburse the ceding insurer for:

(I) The assuming insurer's share under the specific reinsurance agreement of premiums returned, but not yet recovered from the assuming insurer, to the owners of policies reinsured under the reinsurance agreement because of cancellations of such policies;

(II) The assuming insurer's share of surrenders and benefits or losses paid by the ceding insurer pursuant to the provisions of the policies reinsured under the reinsurance agreement; and

(III) Any other amounts necessary to secure the credit or reduction from liability for reinsurance taken by the ceding insurer;

(ii) To make payment to the assuming insurer of amounts held in the trust account in excess of the amount necessary to secure the credit or reduction from liability for reinsurance taken by the ceding insurer.

(2) The reinsurance agreement also may contain provisions that:

(a) Give the assuming insurer the right to seek approval from the ceding insurer, which shall not be unreasonably or arbitrarily withheld, to withdraw from the trust account all or any part of the trust assets and transfer those assets to the assuming insurer, provided:

(i) The assuming insurer shall, at the time of withdrawal, replace the withdrawn assets with other qualified assets having a market value equal to the market value of the assets withdrawn so as to maintain at all times the deposit in the required amount; or

(ii) After withdrawal and transfer, the market value of the trust account is no less than 102 percent of the required amount.

(b) Provide for the return of any amount withdrawn in excess of the actual amounts required for Paragraph (1)(e) of this subsection, and for interest payments at a rate not in excess of the prime rate of interest on the amounts held pursuant to Paragraph (1)(e) of this subsection;

(c) Permit the award by any arbitration panel or court of competent jurisdiction of:

(i) Interest at a rate different from that provided in Subparagraph (b) of this paragraph;

(ii) Court or arbitration costs;

(iii) Attorney's fees; and

(iv) Any other reasonable expenses.

(3) Financial reporting. A trust agreement may be used to reduce any liability for reinsurance ceded to an unauthorized assuming insurer in financial statements required to be filed with this department in compliance with the provisions of this regulation when established on or before the date of

filing of the financial statement of the ceding insurer. Further, the reduction for the existence of an acceptable trust account may be up to the current fair market value of acceptable assets available to be withdrawn from the trust account at that time, but such reduction shall be no greater than the specific obligations under the reinsurance agreement that the trust account was established to secure.

(4) Existing agreements. Notwithstanding the effective date of this regulation, any trust agreement or underlying reinsurance agreement in existence prior to [insert date] will continue to be acceptable until [insert date], at which time the agreements will have to fully comply with this regulation for the trust agreement to be acceptable.

(5) The failure of any trust agreement to specifically identify the beneficiary as defined in Subsection A of this section shall not be construed to affect any actions or rights that the commissioner may take or possess pursuant to the provisions of the laws of this state.

Section 11. Letters of Credit Qualified under Section 9

A. The letter of credit must be clean, irrevocable, unconditional and issued or confirmed by a qualified United States financial institution as defined in Section [insert citation to state law equivalent of Section 4A of the Credit for Reinsurance Model Law]. The letter of credit shall contain an issue date and expiration date and shall stipulate that the beneficiary need only draw a sight draft under the letter of credit and present it to obtain funds and that no other document need be presented. The letter of credit also shall indicate that it is not subject to any condition or qualifications outside of the letter of credit. In addition, the letter of credit itself shall not contain reference to any other agreements, documents or entities, except as provided in Subsection I(1) of this section. As used in this section, "beneficiary" means the domestic insurer for whose benefit the letter of credit has been established and any successor of the beneficiary by operation of law. If a court of law appoints a successor in interest to the named beneficiary, then the named beneficiary includes and is limited to the court appointed domiciliary receiver (including conservator, rehabilitator or liquidator).

Drafting Note: The NAIC has adopted the above definition as part of the "Uniform Letter of Credit." However, the state may choose to utilize the following definition: "Beneficiary" includes any successor by operation of law of the named beneficiary, including without limitation any liquidator, rehabilitator, receiver or conservator.

B. The heading of the letter of credit may include a boxed section containing the name of the applicant and other appropriate notations to provide a reference for the letter of credit. The boxed section shall be clearly marked to indicate that such information is for internal identification purposes only.

C. The letter of credit shall contain a statement to the effect that the obligation of the qualified United States financial institution under the letter of credit is in no way contingent upon reimbursement with respect thereto.

D. The term of the letter of credit shall be for at least one year and shall contain an "evergreen clause" that prevents the expiration of the letter of credit without due notice from the issuer. The "evergreen clause" shall provide for a period of no less than thirty (30) days notice prior to expiration date or nonrenewal.

E. The letter of credit shall state whether it is subject to and governed by the laws of this state or the Uniform Customs and Practice for Documentary Credits of the International Chamber of Commerce (Publication 500), or any successor publication, and all drafts drawn thereunder shall be presentable at an office in the United States of a qualified United States financial institution.

F. If the letter of credit is made subject to the Uniform Customs and Practice for Documentary Credits of the International Chamber of Commerce (Publication 500), or any successor publication, then the letter of credit shall specifically address and provide for an extension of time to draw against the letter of credit in the event that one or more of the occurrences specified in Article 17 of Publication 500 or any other successor publication, occur.

G. The letter of credit shall be issued or confirmed by a qualified United States financial institution authorized to issue letters of credit, pursuant to Section [insert citation to state law equivalent to 4A of the Credit for Reinsurance Model Law].

H. If the letter of credit is issued by a qualified United States financial institution authorized to issue letters of credit, other than a qualified United States financial institution as described in Subsection G of this section, then the following additional requirements shall be met:

(1) The issuing qualified United States financial institution shall formally designate the confirming qualified United States financial institution as its agent for the receipt and payment of the drafts; and

(2) The "evergreen clause" shall provide for thirty (30) days notice prior to expiration date for nonrenewal.

I. Reinsurance agreement provisions.

(1) The reinsurance agreement in conjunction with which the letter of credit is obtained may contain provisions that:

(a) Require the assuming insurer to provide letters of credit to the ceding insurer and specify what they are to cover;

(b) Stipulate that the assuming insurer and ceding insurer agree that the letter of credit provided by the assuming insurer pursuant to the provisions of the reinsurance agreement may be drawn upon at any time, notwithstanding any other provisions in the agreement, and shall be utilized by the ceding insurer or its successors in interest only for one or more of the following reasons:

(i) To pay or reimburse the ceding insurer for:

(I) The assuming insurer's share under the specific reinsurance agreement of premiums returned, but not yet recovered from the assuming insurers, to the owners of policies reinsured under the reinsurance agreement on account of cancellations of such policies;

(II) The assuming insurer's share, under the specific reinsurance agreement, of surrenders and benefits or losses paid by the ceding insurer, but not yet recovered from the assuming insurers, under the terms and provisions of the policies reinsured under the reinsurance agreement; and

(III) Any other amounts necessary to secure the credit or reduction from liability for reinsurance taken by the ceding insurer;

(ii) Where the letter of credit will expire without renewal or be reduced or replaced by a letter of credit for a reduced amount and where the assuming insurer's entire obligations under the specific reinsurance remain unliquidated and undischarged ten (10) days prior to the termination date, to withdraw amounts equal to the assuming insurer's share of the liabilities, to the extent that the liabilities have not yet been funded by the assuming insurer and exceed the amount of any reduced or replacement letter of credit, and deposit those amounts in a separate account in the name of the ceding insurer in a qualified U. S. financial institution apart from its general assets, in trust for such uses and purposes specified in Subsection I(1)(b)(i) of this section as may remain after withdrawal and for any period after the termination date.

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(c) All of the provisions of Paragraph (1) of this subsection shall be applied without diminution because of insolvency on the part of the ceding insurer or assuming insurer.

(2) Nothing contained Paragraph (1) of this subsection shall preclude the ceding insurer and assuming insurer from providing for:

(a) An interest payment, at a rate not in excess of the prime rate of interest, on the amounts held pursuant to Paragraph (1)(b) of this regulation; or

(b) The return of any amounts drawn down on the letters of credit in excess of the actual amounts required for the above or any amounts that are subsequently determined not to be due.

Section 12. Other Security

A ceding insurer may take credit for unencumbered funds withheld by the ceding insurer in the United States subject to withdrawal solely by the ceding insurer and under its exclusive control.

Section 13. Reinsurance Contract

Credit will not be granted, nor an asset or reduction from liability allowed, to a ceding insurer for reinsurance effected with assuming insurers meeting the requirements of Sections 4, 5, 6, 7 or 9 of this regulation or otherwise in compliance with Section [cite state law equivalent of Section 2 of the Credit for Reinsurance Model Law] after the adoption of this regulation unless the reinsurance agreement:

A. Includes a proper insolvency clause pursuant to Section [insert appropriate number] of the Insurance Code; and

B. Includes a provision pursuant to Section [cite state law equivalent to Section 2F of the Credit for Reinsurance Model Law] whereby the assuming insurer, if an unauthorized assuming insurer, has submitted to the jurisdiction of an alternative dispute resolution panel or court of competent jurisdiction within the United States, has agreed to comply with all requirements necessary to give the court or panel jurisdiction, has designated an agent upon whom service of process may be effected, and has agreed to abide by the final decision of the court or panel.

Drafting Note: It is recognized that credit for reinsurance may be affected by other sections of the adopting state's code, e.g., the statutory insolvency or intermediary clauses. It is recommended that states that have statutory insolvency or intermediary clauses consider incorporating those clauses into this regulation.

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Section 14. Contracts Affected

All new and renewal reinsurance transactions entered into after [insert date] shall conform to the requirements of the Act and this regulation if credit is to be given to the ceding insurer for such reinsurance.

Legislative History (all references are to the Proceedings of the NAIC).

1991 Proc. I 9, 18, 908, 926-927, 930-939 (adopted).
1996 Proc. 3rd Quarter 9, 41, 1109, 111, 1112-1125 (amended and reprinted).
2001 Proc. 1st Quarter (amended).

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FORM AR-1

CERTIFICATE OF ASSUMING INSURER

I, _____, _____
(name of officer) (title of officer)

of _____, the assuming insurer
(name of assuming insurer)

under a reinsurance agreement with one or more insurers domiciled in

_____, hereby certify that
(name of state)

_____("Assuming Insurer"):
(name of assuming insurer)

1. Submits to the jurisdiction of any court of competent jurisdiction in _____
(ceding insurer's state of domicile)
for the adjudication of any issues arising out of the reinsurance agreement, agrees to comply with all requirements necessary to give such court jurisdiction, and will abide by the final decision of such court or any appellate court in the event of an appeal. Nothing in this paragraph constitutes or should be understood to constitute a waiver of Assuming Insurer's rights to commence an action in any court of competent jurisdiction in the United States, to remove an action to a United States District Court, or to seek a transfer of a case to another court as permitted by the laws of the United States or of any state in the United States. This paragraph is not intended to conflict with or override the obligation of the parties to the reinsurance agreement to arbitrate their disputes if such an obligation is created in the agreement.

2. Designates the Insurance Commissioner of _____
(ceding insurer's state of domicile)
as its lawful attorney upon whom may be served any lawful process in any action, suit or proceeding arising out of the reinsurance agreement instituted by or on behalf of the ceding insurer.

3. Submits to the authority of the Insurance Commissioner of
_____ to examine its books and records
(ceding insurer's state of domicile)
and agrees to bear the expense of any such examination.

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4. Submits with this form a current list of insurers domiciled in _____ reinsured by Assuming Insurer and
(ceding insurer's state of domicile)
undertakes to submit additions to or deletions from the list to the Insurance Commissioner at least once per calendar quarter.

Dated: _____ _____
(name of assuming insurer)

BY: _____
(name of officer)

_____
(title of officer)

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SPECIAL PURPOSE REINSURANCE VEHICLE MODEL ACT

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Section 1. Purpose

This Act provides for the creation of Special Purpose Reinsurance Vehicles ("SPRVs") exclusively to facilitate the securitization of one or more ceding insurers' risk as a means of accessing alternative sources of capital and achieving the benefits of securitization. Investors in fully funded insurance securitization transactions provide funds that are available to the SPRV to secure the aggregate limit under an SPRV contract that provides coverage against the occurrence of a triggering event. The creation of SPRVs is intended to achieve greater efficiencies in conducting insurance securitizations, to diversify and broaden insurers' access to sources of risk bearing capital and to make insurance securitization generally available on reasonable terms to as many U.S. insurers as possible.

Drafting Note: Under the terms of the typical securities underlying an insurance securitization transaction, proceeds from the issuance of securities are repaid to the investor on a specified maturity date with interest or dividends unless a triggering event occurs. The insurance securitization proceeds are available to pay the SPRV's obligations to the ceding insurer if a triggering event occurs, as well as being available to satisfy the SPRV's obligation to repay the insurance securitization investors if a triggering event does not occur. Insurance securitization transactions have been performed by alien companies to utilize efficiencies available to alien companies that are not currently available to domestic companies. This Act allows more

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efficiency in conducting insurance securitizations, allows domestic ceding insurers easier access to alternative sources of risk bearing capital, and promotes the benefits of insurance securitization to U.S. insurers.

Section 2. Exemption from Insurance Laws within Limitations

A. An SPRV is subject to the following sections of [insert state's insurance code]: [insert sections of code providing commissioner's general powers, including power to investigate insurance law violations, subpoena and examine documents and witnesses, conduct hearings, institute other legal action to enforce laws or orders, issue cease and desist orders, impose fines, handle documents and records, suspend or revoke licenses or certificates of authority, impose fees and other charges; and reference state's examination law for enforcement of the act].

Drafting Note: Insert the title of the chief insurance regulatory official wherever the term "commissioner" appears.

B. No other provisions of this [insert state's insurance code] shall be applicable to a SPRV organized under this Act, except as provided in this Act.

Section 3. Definitions

For purposes of this Act, the following terms have the indicated meanings:

A. "Aggregate limit" means the maximum sum payable to the ceding insurer under an SPRV contract.

B. "Ceding insurer" means one or more insurers or reinsurers under common control that enters into an SPRV contract with an SPRV.

C. "Control" (including the terms "controlling," "controlled by" and "under common control with") means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a person, whether through the ownership of voting securities, by contract other than a commercial contract for goods or non-management services, or otherwise, unless the power is the result of an official position with or corporate office held by the person. Control shall be presumed to exist if any person, directly or indirectly, owns, controls, holds with the power to vote, or holds proxies representing, ten percent (10%) or more of the voting securities of any other person. This presumption may be rebutted by a showing that control does not, in fact, exist. Notwithstanding the foregoing, for purposes of this Act, the fact that an SPRV exclusively provides reinsurance to a ceding insurer under an SPRV contract shall not by itself be sufficient grounds for a finding that the SPRV or the SPRV Organizer or owner is controlled by or under common control with the ceding insurer.

D. "Fair value" means:

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(1) As to cash, the amount thereof; and

(2) As to an asset other than cash:

(a) The amount at which that asset could be bought or sold in a current transaction between arms-length, willing parties;

(b) The quoted market price for the asset in active markets should be used if available; and

(c) If quoted market prices are not available, a value determined using the best information available considering values of like assets and other valuation methods, such as present value of future cash flows, historical value of the same or similar assets or comparison to values of other asset classes the value of which have been historically related to the subject asset.

E. "Fully funded" means that, with respect to an SPRV contract, the fair value of the assets held in trust by or on behalf of the SPRV under the SPRV contract on the date on which the SPRV contract is effected, equals or exceeds the aggregate limit as defined in this Act.

F. "Indemnity trigger" means a transaction term by which the SPRV's obligation to pay the ceding insurer for losses covered by an SPRV contract is triggered by the ceding insurer incurring a specified level of losses.

G. "Insolvency" or "insolvent" means that the SPRV is unable to pay its obligations when they are due, unless the obligations are the subject of a bona fide dispute.

H. "Non-indemnity trigger" means a transaction term by which the SPRV's obligation to pay the ceding insurer under an SPRV contract arises from the occurrence or existence of some event or condition other than the ceding insurer incurring a specified level of losses under its insurance or reinsurance contracts.

I. "Permitted investments" means those investments that meet the qualifications set forth in Section 17 of this Act.

J. "Qualified U.S. financial institution" means, for purposes of meeting the requirements of a trustee as specified in Section 6, a financial institution that is eligible to act as a fiduciary of a trust, and:

(1) Is organized, or, in the case of a U.S. branch or agency office of a foreign banking organization, is licensed, under the laws of the United States or any state thereof, and

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(2) Is regulated, supervised and examined by federal or state authorities having regulatory authority over banks and trust companies.

Drafting Note: Because assets held in a fiduciary capacity are not subject to the claims of the trustee's creditors, and because the trust departments of all U.S. financial institutions (including U.S. branch or agency offices of foreign banking organizations having fiduciary powers in the U.S.) are regulated, supervised and examined by the institution's primary U.S. bank regulatory authority (federal or state), there is no need to apply additional standards measuring the financial condition or standing of the institution.

K. "Special Purpose Reinsurance Vehicle" or "SPRV" means an entity domiciled in and organized under the laws of this state, which has received a Limited Certificate of Authority from the commissioner under this Act exclusively for the limited purpose of entering into and effectuating SPRV insurance securitizations, SPRV contracts and other related transactions permitted by this Act.

L. "SPRV contract" means a contract between the SPRV and the ceding insurer pursuant to which the SPRV agrees to pay the ceding insurer an agreed amount upon the occurrence of a triggering event.

M. "SPRV insurance securitization" means a package of related risk transfer instruments and facilitating administrative agreements by which proceeds are obtained by an SPRV through the issuance of securities, which proceeds are held in trust pursuant to the requirements of this Act to secure the obligations of the SPRV under an SPRV contract with one or more ceding insurers, wherein the SPRV's obligation to return the full initial investment to the holders of such securities, pursuant to the transaction terms, is contingent upon the funds not being used to pay the obligations of the SPRV to the ceding insurers under the SPRV contract.

N. "SPRV organizer" means one or more persons that have organized or intend to organize an SPRV, under authority obtained as specified in this Act.

O. "SPRV securities" means the securities issued by an SPRV.

P. "Triggering event" means an event or condition that, if and when it occurs or exists, obligates the SPRV to make a payment to the ceding insurer under the provisions of an SPRV contract.

Section 4. Limited Certificate of Authority Required

A. In order to securitize one or more ceding insurers' risks, an SPRV shall obtain a limited certificate of authority from the commissioner according to the provisions of this section.

B. An SPRV organizer seeking to obtain a limited certificate of authority for a SPRV shall file an application with the commissioner. A complete application shall include the following:

(1) An affidavit verifying that each prospective SPRV organizer meets the requirements of this Act;

(2) A representation that the prospective SPRV organizer intends to form an SPRV that shall operate in accordance with the requirements set forth in this Act;

(3) The proposed name of the SPRV;

(4) Biographical affidavits of all SPRV organizers setting forth their legal names, any names under which they have or are conducting their affairs, and any affiliations with other persons as defined in [insert a citation to the state insurance holding company system act], together with such other biographical information as the commissioner may request;

(5) The source and form of the minimum capital to be contributed to the SPRV;

(6) Any persons with which the SPRV is or upon formation will be affiliated as defined in [insert the state's insurance holding company system act];

(7) The names and biographical affidavits of the proposed members of the board of directors and principal officers of the SPRV, setting forth their legal names, any names under which they have or are conducting their affairs and any affiliations with other persons as defined in [insert the name of the state insurance holding company system act], together with such other biographical information as the commissioner may request;

(8) A plan of operation, consisting of a description of the contemplated insurance securitization, the SPRV contract and related transactions, which shall include:

(a) Draft documentation or, at the discretion of the commissioner, a written summary, of all material agreements that will be entered into to effectuate the insurance securitization and the related SPRV contract, to include the names of the ceding insurers, the nature of the risks being assumed, and the maximum amounts, purpose and nature and the interrelationships of the various transactions required to effectuate the insurance securitization;

(b) The investment strategy of the SPRV and a representation that the investment strategy complies with the investment requirements set

forth in this Act and that the strategy will include investment practices or other provisions to preserve asset values, which will facilitate attainment of full funding during the term of the securitization with assets that can be monetized in response to a triggering event without a substantial loss in value; and

(c) A description of the method by which losses covered by the SPRV contract that may develop after the termination of the contract period are to be addressed under the provisions of the SPRV contract; and

(d) A representation that the trust agreement and the trusts holding assets that secure the obligations of the SPRV under the SPRV contract and the SPRV contract with the ceding insurers in connection with the contemplated insurance securitization will be structured in accordance with the requirements set forth in this act.

C. The commissioner shall approve the application and issue a limited certificate of authority upon a finding that (1) the proposed plan of operation provides a reasonable expectation of a successful operation, (2) the terms of the SPRV contract and related transactions comply with this Act, (3) the proposed plan of operation is not hazardous to any ceding insurer or to policyholders and (4) the commissioner of the state of domicile of each ceding insurer has notified the commissioner in writing that it has not disapproved the transaction. In evaluating the expectation of a successful operation, the commissioner shall consider, among other factors, whether the proposed SPRV organizer, directors and officers are of known good character and not reasonably believed to be affiliated, directly or indirectly, through ownership, control, management, reinsurance transactions or other insurance or business relations, with any person known to have been involved in the improper manipulation of assets, accounts or reinsurance. If the commissioner denies the application, he or she shall grant the prospective SPRV organizer a hearing upon request.

Drafting Note: Each state should review its legislative authority to ensure that its commissioner has the necessary jurisdiction to review and approve or disapprove proposed SPRV transactions by its domestic ceding insurers to non-domestic SPRVs.

D. Upon approval by the commissioner of the application and the issuance of a limited certificate of authority, the SPRV may be acquired or formed and, in accordance with the approved plan of operation, the SPRV may enter into contracts and conduct other activities within the scope of the filed plan of operation.

E. The limited certificate of authority shall state that the SPRV's authorization to be involved in the business of reinsurance shall be limited only to the reinsurance activities that the SPRV is allowed to conduct pursuant to this Act.

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F. The SPRV organizer shall provide a complete set of the documentation of the insurance securitization to the commissioner upon closing of the transactions, including an opinion of legal counsel with respect to compliance with this Act and any other applicable laws as of the effective date of the transaction. Any material change of the SPRV's plan of operation described in Subsection B of this section, including but not limited to the issuance of new securities to continue the securitization activities of the SPRV pursuant to this Act after expiration and full satisfaction of the initial securitization transactions, shall require prior approval of the commissioner, provided that a change in the counterparty to swap transactions for an existing securitization as allowed under this Act shall not be deemed a material change.

Section 5. Limited Purpose of SPRV

SPRVs authorized under this Act are created for the limited purpose of entering into insurance securitization transactions with investors and related agreements to pay one or more ceding insurers agreed upon amounts under a SPRV contract upon the occurrence of triggering events related to the insurance business of the ceding insurer. A SPRV may not issue a contract for assumption of risk or indemnification of loss other than a SPRV contract.

Drafting Note: States may consider either authorizing, either directly by statute, or by providing rule-making authority, specific lines of business that may be ceded to a SPRV or restricting specific lines of business from being ceded to a SPRV.

Section 6. Approved Transactions and Operation of SPRVs

A. SPRVs authorized under this Act may at any given time enter into and effectuate SPRV contracts with one or more ceding insurers, provided that the SPRV contracts obligate the SPRV to indemnify the ceding insurer for losses and that contingent obligations of the SPRV under the SPRV contracts are securitized in full through a single SPRV insurance securitization and are fully funded and secured with assets held in trust in accordance with the requirements included herein pursuant to agreements contemplated by this Act and invested in a manner that meets the criteria set forth in Section 17.

Drafting Note: The requirement that a SPRV indemnify the ceding insurer against losses may be expanded to allow an SPRV to enter into non-indemnity transactions with ceding insurers pursuant to regulations issued by the commissioner addressing the treatment of the portion of the risk that is not indemnity based, accounting, disclosure, risk based capital treatment, and assessing risks associated with such SPRV contract governing credit for these transactions.

B. An SPRV may enter into agreements with third parties and conduct business necessary to fulfill its obligations and administrative duties incident to the insurance securitization and the SPRV contract. The agreements may include entering into swap agreements or other transactions that have the objective of

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leveling timing differences in funding up-front or ongoing transaction expenses or managing credit or interest rate risk of the investments in trust to assure that the assets held in trust will be sufficient to satisfy payment or repayment of the securities issued pursuant to an insurance securitization transaction or the obligations of the SPRV under the SPRV contract. In fulfilling its function, the SPRV shall adhere to the following requirements and shall, to the extent of its powers, ensure that contracts obligating other parties to perform certain functions incident to its operations are substantively and materially consistent with the following requirements and guidelines:

(1) An SPRV shall have a distinct name, which shall include the designation "SPRV." The name of the SPRV shall not be deceptively similar to, or likely to be confused with or mistaken for, any other existing business name registered in this state.

(2) Unless otherwise provided in the plan of operation, the principal place of business and office of any SPRV organized under this Act shall be located in this state.

(3) The assets of an SPRV shall be preserved and administered by or on behalf of the SPRV to satisfy the liabilities and obligations of the SPRV incident to the insurance securitization and other related agreements, including the SPRV contract.

(4) Assets of the SPRV that are pledged to secure obligations of the SPRV to a ceding insurer under an SPRV contract shall be held in trust and administered by a qualified U.S. financial institution. The qualified U.S. financial institution shall not control, be controlled by, or be under common control with, the SPRV or the ceding insurers.

(5) The agreement governing any such trust shall create one or more trust accounts into which all pledged assets shall be deposited and held until distributed in accordance with the trust agreement. The pledged assets shall be held by the trustee at the trustee's office in the United States and may be held in certificated or electronic form.

(6) The provisions for withdrawal by ceding insurers of assets from the trust shall be clean and unconditional, subject only to the following requirements:

(a) The ceding insurer shall have the right to withdraw assets from the trust account at any time, without notice to the SPRV, subject only to written notice to the trustee from the ceding insurer that funds in the amount requested are due and payable by the SPRV;

(b) No other statement or document need be presented in order to withdraw assets, except the ceding insurer may be required to acknowledge receipt of withdrawn assets;

(c) The trust agreement shall indicate that it is not subject to any conditions or qualifications outside of the trust agreement;

(d) The trust agreement shall not contain references to any other agreements or documents; and

(e) No reference shall be made to the fact that these funds may represent reinsurance premiums or that the funds have been deposited for any specific purpose.

(7) The trust agreement shall be established for the sole use and benefit of the ceding insurer at least to the full extent of the SPRV's obligations to the ceding insurer under the SPRV contract. In the case of more than one ceding insurer, a separate trust agreement shall be entered into with each ceding insurer and a separate trust account shall be maintained for each ceding insurer.

(8) The trust agreement shall provide for the trustee to:

(a) Receive assets and hold all assets in a safe place;

(b) Determine that all assets are in a form that the ceding insurer or the trustee, upon direction by the ceding insurer may, whenever necessary, negotiate the assets, without consent or signature from the SPRV or any other person or entity;

(c) Furnish to the SPRV, the commissioner and the ceding insurer a statement of all assets in the trust account reported at fair value upon its inception and at intervals no less frequent than the end of each calendar quarter;

(d) Notify the SPRV and the ceding insurer, within ten (10) days, of any deposits to or withdrawals from the trust account;

(e) Upon written demand of the ceding insurer, immediately take any and all steps necessary to transfer absolutely and unequivocally all right, title and interest in the assets held in the trust account to the ceding insurer and deliver physical custody of the assets to the ceding insurer; and

(f) Allow no substitutions or withdrawals of assets from the trust account, except on written instructions from the ceding insurer.

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(9) The trust agreement shall provide that at least thirty (30) days, but not more than forty-five (45) days, prior to termination of the trust account, written notification of termination shall be delivered by the trustee to the ceding insurer.

(10) The trust agreement may be made subject to and governed by the laws of any state, in addition to the requirements for the trust as provided in this Act, provided that the state is disclosed in the plan of operation filed with and approved, or deemed approved, by the commissioner.

(11) The trust agreement shall prohibit invasion of the trust corpus for the purpose of paying compensation to, or reimbursing the expenses of, the trustee.

(12) The trust agreement shall provide that the trustee shall be liable for its own negligence, willful misconduct or lack of good faith.

(a) Notwithstanding the provisions of Subsection B(6)(c), (d) and (e) or B(14)(e) of this section, when a trust agreement is established in conjunction with an SPRV contract, then the trust agreement may provide that the ceding insurer shall undertake to use and apply any amounts drawn upon the trust account, without diminution because of the insolvency of the ceding insurer or the SPRV, for the following purposes:

(i) To pay or reimburse the ceding insurer amounts due to the ceding insurer under the specific SPRV contract, including but not limited to unearned premiums due to the ceding insurer, if not otherwise paid by the SPRV in accordance with the terms of such agreement; or

(ii) Where the ceding insurer has received notification of termination of the trust account, and where the SPRV's entire "obligations" under the specific SPRV contract remain unliquidated and undischarged ten (10) days prior to the termination date, to withdraw amounts equal to the obligations and deposit the amounts in a separate account, in the name of the ceding insurer, in any qualified U.S. financial institution, apart from its general assets, in trust for uses and purposes specified in Subparagraph (a) of this paragraph as may remain executory after the withdrawal and for any period after the termination date. "Obligations" within the meaning of this subparagraph may, without duplication, include:

(I) Losses and loss expenses paid by the ceding insurer, but not recovered from the SPRV;

(II) Reserves for losses reported and outstanding;

(III) Reserves for losses incurred but not reported;

(IV) Reserves for loss expenses;

(V) Reserves for unearned premiums;

(VI) Any other amounts that, together with Items (I) to (V) of this subparagraph, represent the aggregate limit remaining under the SPRV contract if the period of coverage or the agreed upon period of loss development has yet to expire.

(b) The provisions to be included in the trust agreement pursuant to this paragraph may instead be included in the underlying SPRV contract.

(14) An SPRV contract shall contain provisions that:

(a) Require the SPRV to enter into a trust agreement and to establish a trust account for the benefit of the ceding insurer, and specifying what recoverables or reserves, or both, the agreement is to cover;

(b) Stipulate that assets deposited in the trust account shall be valued according to their current fair value, and shall consist only of permitted investments;

(c) Require the SPRV, prior to depositing assets with the trustee, to execute assignments, endorsements in blank, or to transfer legal title to the trustee of all shares, obligations or any other assets requiring assignments, in order that the ceding insurer, or the trustee upon the direction of the ceding insurer, may whenever necessary negotiate any such assets without consent or signature from the SPRV or any other entity;

(d) Require that all settlements of account between the ceding insurer and the SPRV be made in cash or its equivalent; and

(e) Stipulate that the SPRV and the ceding insurer agree that the assets in the trust account, established pursuant to the provisions of the SPRV contract, may be withdrawn by the ceding insurer at any time, notwithstanding any other provisions in the SPRV contract,

and shall be utilized and applied by the ceding insurer or any successor by operation of law of the ceding insurer, including (subject to the provisions of Section 16), but without further limitation, any liquidator, rehabilitator, receiver or conservator of the ceding insurer, without diminution because of insolvency on the part of the ceding insurer or the SPRV, only for the following purposes:

(i) To transfer all such assets into one or more trust accounts for the benefit of the ceding insurer pursuant to the terms of the SPRV contract and in compliance with this Act; and

(ii) To pay any other amounts that the ceding insurer claims are due under the SPRV contract.

(15) The SPRV contract entered into by the SPRV may contain provisions that give the SPRV the right to seek approval from the ceding insurer to withdraw from the trust all or part of the assets contained in the trust and to transfer the assets to the SPRV, provided:

(a) The SPRV shall, at the time of the withdrawal, replace the withdrawn assets with other qualified assets having a fair value equal to the fair value of the assets withdrawn and that meet the requirements of Section 17; and

(b) After the withdrawals and transfer, the fair value of the assets in trust securing the obligations of the SPRV under the SPRV contract is no less than an amount needed to satisfy the fully funded requirement of the SPRV contract. The ceding insurer shall be the sole judge as to the application of these provisions, but shall not unreasonably nor arbitrarily withhold its approval.

(16) The contract shall provide that investors in the SPRV agree that any obligation to repay principal, interest or dividends on the securities issued by the SPRV shall be reduced upon the occurrence of a triggering event, to the extent that the assets of the SPRV held in trust for the benefit of the ceding insurer are remitted to the ceding insurer in fulfillment of the obligations of the SPRV under the SPRV contract.

(17) Assets held by an SPRV in trust shall be valued at their fair value.

(18) The proceeds from the sale of securities by the SPRV to investors shall be deposited with the trustee as contemplated by this Act, and shall be held or invested by the trustee in accordance with the requirements of Section 17.

(19) An SPRV organized under this Act shall engage only in fully funded indemnity triggered SPRV contracts to support in full the ceding insurers' exposures assumed by the SPRV. However, an SPRV may engage in an SPRV contract that is non-indemnity triggered only after the commissioner, in accordance with the authority granted under Section 20 of this Act, adopts regulations addressing the treatment of the portion of the risk that is not indemnity based, to include accounting, disclosure, risk based capital treatment, and the manner in which risks associated with a non-indemnity based SPRV contract may be evaluated and managed. At no time may an SPRV enter into an SPRV contract that is not fully funded, whether indemnity triggered or non-indemnity triggered. Assets of the SPRV may be used to pay interest or other consideration on any outstanding debt or other obligation of the SPRV, and nothing in this paragraph shall be construed or interpreted to prevent an SPRV from entering into a swap agreement or other transaction that has the effect of guaranteeing interest or other consideration.

(20) In the SPRV insurance securitization, the contracts or other relating documentation shall contain provisions identifying the SPRV that will enter into the special purpose reinsurance securitization and the contracts or other documentation shall clearly disclose that the assets of the SPRV, and only those assets, are available to pay the obligations of that SPRV. Notwithstanding the foregoing, and subject to the provisions of this Act and any other applicable law or regulation, the failure to include such language in the contracts or other documentation shall not be used as the sole basis by creditors, reinsurers or other claimants to circumvent the provisions of this Act.

(21) Under no circumstances shall an SPRV be authorized to:

(a) Issue or otherwise administer primary insurance policies;

(b) Have any obligation to the policyholders or reinsureds of the ceding insurer;

(c) Enter into an SPRV contract with a person that is not licensed or otherwise authorized to conduct the business of insurance or reinsurance in at least its state or country of domicile; or

(d) Assume or retain exposure to insurance or reinsurance losses for its own account that is not initially fully funded by proceeds from an SPRV securitization that meets the requirements of this Act.

(22) At the cessation of business of an SPRV, the limited certificate of authority granted by the commissioner shall expire and the SPRV shall no longer be authorized to conduct activities pursuant to this Act unless and

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until a new certificate of authority is issued pursuant to a new filing in accordance with Section 4.

(23) It shall be unlawful for an SPRV to loan or otherwise invest, or place in custody, trust or under management any of its assets with, or to borrow money or receive a loan from (other than by issuance of the securities pursuant to an insurance securitization), or advance from, anyone convicted of a felony, anyone who is untrustworthy or of known bad character or anyone convicted of a criminal offense involving the conversion or misappropriation of fiduciary funds or insurance accounts, theft, deceit, fraud, misrepresentation or corruption.

Section 7. Powers

A. An SPRV authorized under this Act shall have the necessary powers to enter into contracts and to conduct other commercial activities necessary to fulfill the purposes of this Act. These activities may include, but are not limited to, entering into SPRV contracts, issuing securities of the SPRV and complying with the terms thereof, entering into trust, swap and other agreements necessary to effectuate an insurance securitization in compliance with the limitations and pursuant to the authorities granted to the SPRV under this Act or the plan of operation approved or deemed approved by the commissioner.

B. An SPRV organized or doing business under this Act shall be capable of suing or being sued, and may make or enforce contracts in relation to the business of the SPRV; may have and use a common seal, and in the name of the SPRV or by a trustee chosen by the board of directors, shall be capable of taking, purchasing, holding and disposing of real and personal property for carrying into effect the purposes of its organization; and may by its board of directors, trustees, officers or managers, make bylaws and amendments thereto not inconsistent with the laws or the constitution of this state or of the United States. The bylaws shall define the manner of electing directors, trustees or managers and officers of the SPRV, together with their qualifications and duties and fixing the term of office.

Section 8. Affiliation

Notwithstanding the provisions of the [insert citation to insurance holding company system act] the SPRV, the SPRV organizer, or subsequent debt or equity investors in SPRV securities shall not be deemed affiliates of the ceding insurer by virtue of the SPRV contract between the ceding insurer and the SPRV, the securities of the SPRV or related agreements necessary to implement the SPRV insurance securitization. The SPRV may not be controlled by, may not control, or may not be under common control with, any ceding insurer that is a party to an SPRV contract.

Section 9. Capitalization

An SPRV shall have minimum initial capital of not less than $5,000. All of the initial capital shall be received by the SPRV in cash. The minimum initial capital required and all other funds of the SPRV in excess of its minimum initial capital, including funds held in trust to secure the obligations of the SPRV pursuant to its obligations under the SPRV contracts, shall be invested as provided in Section 17.

Section 10. Dividends

The SPRV may not declare or pay dividends in any form to its owners unless the dividends do not decrease the capital of the SPRV below $5,000 and, after giving effect to the dividends, the assets of the SPRV, including assets held in trust pursuant to the terms of the insurance securitization, shall be sufficient to meet its obligations. The dividends may be declared by the board of directors of the SPRV if the dividends would not violate the provisions of this Act or jeopardize the fulfillment of the obligations of the SPRV or the trustee pursuant to the SPRV insurance securitization, the SPRV contract or any related transaction. The provisions of [insert reference to the insurance holding company system act of the state of the SPRV's domicile] pertaining to dividends do not apply to such dividends.

Section 11. Records and Financial Reports

A. The records of the SPRV shall be maintained in this state and shall be available for examination by the commissioner at any time. No later than five (5) months after the fiscal year end of the SPRV, the SPRV shall file with the commissioner an audit by a certified public accounting firm of the financial statements of the SPRV and the trust accounts.

B. Each SPRV organized under this Act shall file with the commissioner not later than March 1 a statement of operations, to include a statement of income, a balance sheet and a detailed listing of invested assets, including identification of assets held in trust to secure the SPRV's obligations under the SPRV contract, for the year ending the prior December 31. The statements shall be prepared in accordance with [insert reference to applicable statutory accounting guidance for reinsurers adopted by this state] on forms required by the commissioner.

C. The SPRV shall keep its books and records in such manner that its financial condition, affairs and operations can be ascertained and so that its financial statements filed with the commissioner can be readily verified and its compliance with the provisions of this Act determined. The books or records may be photographed, reproduced on film or stored and reproduced electronically.

D. All books, records, documents, accounts and vouchers shall be preserved and kept available in this state for the purpose of examination and until authority to destroy or otherwise dispose of the records is secured from the commissioner. The original records may, however, be kept and maintained outside this state if,

according to a plan adopted by the SPRV's board of directors and approved by the commissioner, it maintains suitable records in lieu thereof.

Section 12. Officers and Directors

The directors of an SPRV shall elect officers that they deem necessary to carry out the purposes of the SPRV pursuant to this Act. The provisions of [insert the insurance code or relevant business corporation act, limited liability corporation act, limited partnership act, etc.] relating to the indemnification of officers and directors apply to and govern SPRVs organized under this Act.

A. Each SPRV authorized to do business in this state shall notify the commissioner within thirty (30) days of the appointment or election of any new officers or directors.

B. In cases where the commissioner deems that an officer or director does not meet the standards set forth in this section, he shall, after notice and hearing afforded to the officer or director, and after a finding that the officer or director is incompetent or untrustworthy or of known bad character, order the removal of the person. If the SPRV does not comply with a removal order within thirty (30) days, the commissioner may suspend that SPRV's limited certificate of authority until such time as the order is complied with.

C. The SPRV shall make no loans to any SPRV organizer, owner, director, officer, manager or affiliate of the SPRV.

Section 13. Fees and Taxes

The commissioner may charge fees to reimburse the commissioner for expenses and costs incurred by the department of insurance incident to the examination of financial statements, review of the plan of operation and to reimburse other such activities of the commissioner related to the formation and ongoing operation of the SPRV. The SPRV shall not be subject to state premium or other taxes incidental to the operation of its business as long as the business remains within the limitations of this Act.

Section 14. Dissolution

An SPRV operating under this Act may be dissolved at any time by a vote of its board of directors, and after the action has been approved by the commissioner. No voluntary dissolution shall be effected or allowed until and unless all of the obligations of the SPRV pursuant to the insurance securitization have been fully and finally satisfied pursuant to their terms. In the case of voluntary dissolution, the disposition of the affairs of the SPRV (including the settlement of all outstanding obligations), shall be made by the officers or directors of the SPRV and when the liquidation has been completed and a final statement, in acceptable form, filed with and approved, or deemed approved, by the commissioner, the provisions for voluntary dissolution under the [insert reference to section of the state's insurance code or general business law that

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provides for and governs dissolution of insurers or other entities as appropriate] shall be followed to dissolve the SPRV.

Section 15. Conservation, Rehabilitation or Liquidation

A. The provisions of [insert reference to the conservation, rehabilitation and liquidation statute] apply to an SPRV, except to the extent modified below.

B. (1) Notwithstanding the provisions of [insert reference to the state's conservation, rehabilitation and liquidation act that is consistent with Section 16 of the NAIC Insurers Rehabilitation and Liquidation Model Act], the commissioner may apply by petition to the [insert reference to appropriate court of jurisdiction] for an order authorizing the commissioner to conserve, rehabilitate or liquidate an SPRV domiciled in this state solely on one or more of the following grounds:

(a) There has been embezzlement, wrongful sequestration, dissipation, or diversion of the assets of the SPRV intended to be used to pay amounts owed to the ceding insurer or the holders of SPRV securities; or

(b) The SPRV is insolvent and the holders of a majority in outstanding principal amount of each class of SPRV securities request or consent to conservation, rehabilitation or liquidation under this Act.

(2) The court shall not grant relief under Paragraph (1)(a) of this subsection unless, after notice and a hearing, the commissioner, who shall have the burden of proof, establishes by clear and convincing evidence that relief should be granted.

C. Notwithstanding any contrary provision in the insurance code of this state, the regulations promulgated under the insurance code of this state, or any other applicable law or regulation, upon any order of conservation, rehabilitation or liquidation of the SPRV, the receiver shall be bound to deal with the SPRV's assets and liabilities, in accordance with the requirements set forth in this Act.

D. With respect to amounts recoverable under an SPRV contract, the amount recoverable by the receiver shall not be reduced or diminished as a result of the entry of an order of conservation, rehabilitation or liquidation with respect to the ceding insurer, notwithstanding any provisions to the contrary in the contracts or other documentation governing the SPRV insurance securitization.

(1) Notwithstanding the provisions of [insert reference to the conservation, rehabilitation and liquidation act consistent with Section 5 of the NAIC Rehabilitation and Liquidation Model Act] or any other Section of the [insert reference to the conservation, rehabilitation and liquidation act], an

application or petition under Section [insert conservation, rehabilitation and liquidation act provisions consistent with Sections 10, 11, 17, 20, 55, 58 or 59 of the NAIC Insurers Rehabilitation and Liquidation Model Act], or any temporary restraining order or injunction issued under any such section, with respect to a ceding insurer shall not prohibit the transaction of any business by an SPRV, including any payment by an SPRV made pursuant to an SPRV security, or any action or proceeding against an SPRV or its assets.

(2) Notwithstanding the provisions of [insert reference to the section of the conservation, rehabilitation and liquidation act that is consistent with Section 10 of the NAIC Insurers Rehabilitation and Liquidation Model Act], the commencement of a summary proceeding or other interim proceeding commenced prior to a formal delinquency proceeding with respect to an SPRV, and any order issued by the court thereunder, shall not prohibit the payment by an SPRV made pursuant to an SPRV security or SPRV contract or the SPRV from taking any action required to make the payment.

E. Notwithstanding any other provision of [insert reference to the state's conservation, rehabilitation and liquidation act] or other state law:

(1) A receiver of a ceding insurer may not avoid a non-fraudulent transfer by a ceding insurer to an SPRV of money or other property made pursuant to an SPRV contract; and

(2) A receiver of an SPRV may not void a non-fraudulent transfer by the SPRV of money or other property made to a ceding insurer pursuant to an SPRV contract or made to or for the benefit of any holder of an SPRV security on account of the SPRV security.

F. With the exception of the fulfillment of the obligations under an SPRV contract, and notwithstanding any other provisions of this Act or other law of this state to the contrary, the assets of an SPRV, including assets held in trust, shall not be consolidated with or included in the estate of a ceding insurer in any delinquency proceeding against the ceding insurer under this Act for any purpose, including, without limitation, distribution to creditors of the ceding insurer.

G. Notwithstanding any other provision of this Act:

(1) The domiciliary receiver of an SPRV domiciled in another state shall be vested by operation of law with the title to all of the assets, property, contracts and rights of action, and all of the books, accounts and other records of the SPRV located in this state. The domiciliary receiver shall have the immediate right to recover all such vested property, assets, and causes of action of the SPRV located in this state.

(2) No ancillary proceeding may be commenced or prosecuted in this state against an SPRV domiciled in another state.

Drafting Note: The state should amend its conservation, rehabilitation and liquidation law to include an SPRV as a "person covered" as defined in the Section 2 of the NAIC Insurers Rehabilitation and Liquidation Model Act].

Drafting note: A number of states require a liquidator to cancel policies within a pre-specified time period in the event of a liquidation. While reviewing the Plan of Operation, commissioners should consider the termination provisions, if any, of the securitization instruments in the event of the cancellation of all of the insurance policies underlying the securitization in order to assess whether any portion of the risk premium relating to those underlying policies should equitably be returned to the ceding insurer.

Section 16. Not Subject to Guaranty Funds, Residual Market or Similar Arrangements

A. The SPRV or the activities, assets and obligations relating to the SPRV are not subject to the provisions of [insert reference to sections of the insurance code addressing life and health and property and casualty guaranty or insolvency funds], and an SPRV shall not be assessed by or otherwise be required to contribute to any guaranty fund or guaranty association in this state with respect to the activities, assets or obligations of an SPRV or the ceding insurer.

B. The SPRV shall not be required to participate in residual market, FAIR plan or other similar plans to provide insurance coverage, take out policies, assume risks, make capital contributions, pay or be otherwise obligated for assessments, surcharges or fees, or otherwise support or participate in such plans or arrangements.

Section 17. Asset and Investment Limitations

A. Assets of the SPRV held in trust to secure obligations under the SPRV contract shall at all times be held in:

(1) Cash; and cash equivalents;

(2) Securities listed by the Securities Valuation Office of the NAIC and qualifying as admitted assets under statutory accounting convention in its state of domicile; or

(3) Any other form of security acceptable to the commissioner.

B. In addition, the SPRV may enter into swap agreements or other transactions that have the objective of leveling timing differences in funding of up-front or ongoing transaction expenses or managing credit or interest rate risk of the investments in

the trust to ensure that the investments are sufficient to assure payment or repayment of the securities (and related interest or principal payments) issued pursuant to an SPRV insurance securitization transaction or the SPRV's obligations under the SPRV contract.

Section 18. Credit for Reinsurance for the SPRV Contract

An SPRV contract meeting the requirements under this Act shall be granted credit for reinsurance treatment or shall otherwise qualify as an asset or a reduction from liability for reinsurance ceded by a domestic insurer to an assuming insurer under the (insert reference to the state's equivalent of Section 3 of the NAIC Credit for Reinsurance Model Act) for the benefit of the ceding insurer, provided and only to the extent that:

A. The fair value of the assets held in trust for the benefit of the ceding insurer equal or exceed the obligations due and payable to the ceding insurer by the SPRV under the SPRV contract;

B. The assets are held in trust in accordance with the requirements set forth in this Act;

C. The assets are administered in the manner and pursuant to arrangements as set forth in this Act; and

D. The assets are held or invested in one or more of the forms allowed in Section 17.

Section 19. No Transaction of an Insurance Business by Investors in Securities

The securities issued by the SPRV pursuant to an SPRV insurance securitization shall not be deemed to be insurance or reinsurance contracts. An investor in such securities issued pursuant to an SPRV insurance securitization or any holder of such securities shall not, by sole means of this investment or holding, be deemed to be transacting an insurance business in this state. The underwriters or selling agents (and their partners, directors, officers, members, managers, employees, agents, representatives and advisors) involved in an SPRV insurance securitization shall not be deemed to be conducting an insurance or reinsurance agency, brokerage, intermediary, advisory or consulting business by virtue of their activities in connection therewith.

Section 20. Authority to Adopt Regulations

The commissioner may adopt regulations necessary to effectuate the purposes of this Act. Any regulations so adopted will not affect a SPRV insurance securitization in effect at the time of adoption.

Section 21. Effective Date

This Act shall become effective on [insert date].

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Legislative History (all references are to the Proceedings of the NAIC).

2001 Proc. 3rd Quarter (adopted).

Issues Paper No. x

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INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS

ISSUES PAPER ON INSURANCE SECURITIZATION

October 2002

1

SECURITIZATION IN GENERAL

1. A securitization involves a simple financial concept: the future cash flows that can be expected from a particular source (e.g., receivables or loan repayments) serve to back up a financial instrument for sale to an investor. When a business entity ("the originator") engages in a securitization, it first transforms the cash flows into a tradable instrument and then transfers the attendant risks[1] from the entity to capital market investors who, in turn, expect a return commensurate with the risks. Depending on the source, different cash flows can of course have different risk characteristics.

2. In such manner, securitizations give rise to non-traditional sources of capital market financing. These sources both complement and supplement the more traditional sources of debt and equity financing available to a business. For insurance and reinsurance businesses in particular, the securitization concept has proven to provide an attractive alternative source of capacity.

3. From the point of view of an investor in capital market instruments, the ability to purchase a securitized instrument facilitates the optimization of his investment portfolio as it adds a further opportunity to diversify. Moreover, as we shall see shortly, the securitized instruments can be structured to appeal to a wide variety of investors' risk and return preferences by "slicing" the risk/return characteristics into "tranches". The whole process lends itself to creating wide investor appeal, and, hence, securitizations have the salutary effect of broadening the scope of the entire market[2].

4. For the types of securitizations that are of greatest interest to us – namely, insurance-linked securitizations – there is a further attraction for investors: insurance risks, such as catastrophic risk, tend to be uncorrelated to other, more typical, capital market risks (e.g., interest rate risk, currency risk, economic risks, etc.). Portfolio theory holds that the addition of uncorrelated risks to an investment portfolio reduces the overall risk of the portfolio. Hence, it seems counter-intuitive but true that, by purchasing an insurance-linked security ("ILS") based on

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[1] Credit risk, interest rate risk or prepayment risk on mortgages, for instance.
[2] Securitizations are part of a wider range of financial methods known as "structured finance".

catastrophic risk for instance, an investor can diminish the overall risk of his entire investment portfolio.

TYPES OF SECURITIZATIONS

Asset-backed securitizations in general

5. The cash flows from either assets or liabilities can be transformed into a securitized instrument. Historically though, asset-backed securities ("ABSs") were developed first. In the early 1980s, credit card issuing companies and banks[3] seized upon opportunities to securitize some of their receivables[4]. Typically, these financial institutions would issue commercial notes backed by the expected credit card or loan payments from a particular pool of customers. Mortgage lenders, including life insurance companies, also became early users of asset-backed securitizations. In fact, the notes they issued (also known as Collateral Mortgage Obligations or CMOs), which were backed by payments from the residential mortgages they made, quickly generated a multi-billion dollar market[5].

6. Since then, all sorts of other asset types have been successfully securitized[6]. Today, companies of every nationality, size, type, and credit rating routinely raise capital by issuing ABSs in the capital markets. If a company has a pool of performing assets (e.g., trade receivables) of sufficiently high quality, then an asset securitization offers the advantage of overcoming the capital-raising limitations that,

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[3] For banks, the capital requirements of the Basel Capital Accord were a prime motivation for pursuing securitizations. The Accord, for instance, requires banks to hold 8% of credit-card receivables as regulatory capital, money that could otherwise be deployed to more profitable opportunities.

[4] RepublicBank of Delaware was the first bank to securitize credit-card payments from its customers in 1987. See McDonald, L. (1999) Best's Review, April Issue.

[5] In the early nineties, insurance firms allocated significant portions of their investment portfolios to so-called "toxic waste" tranches of CMOs. These investments allowed them to circumvent investment restrictions in other derivatives. These tranches became extremely volatile in the increasing interest rate environment encountered in 1994. The CMO market almost collapsed as liquidity rapidly disappeared, and many insurers and reinsurers suffered heavy losses.

[6] For instance, the wage remittances of Moroccan workers to their home country, the singer David Bowie's future revenues from his early records, the expected income from patrons of British pubs, student loans, utilities' stranded costs, the receivables of automobile dealers, aircraft leases, municipal revenues, commercial loans, and a host of other exotic assets have all found a ready market for securitizations. The most recent trend is the securitization of the entire future cash flows generated by the operations of a company – whole business securitizations, that is. See Trincal, E., Are whole business securitizations next? Institutional Investor Newsletters, August 25, 2001.

say, declining performance, high leverage or third-world location might impose.

7. Even when assets are of doubtful quality (i.e., the expected cash flows are unlikely to materialize), a financial guarantee or a seemingly exceedingly generous stack of collateral (e.g., the face value of the collateral greatly exceeds to face value of the notes) will often serve to seal the deal. Insurance and reinsurance companies are frequent participants in such credit enhancement activities.

8. As can be seen, asset-backed securitizations are now commonplace. The methodologies for structuring, pricing, and accounting for these types of transactions have become well established, familiar, and efficient. Similarly, the regulatory framework for both originators and investors is well settled, with banking, securities and insurance regulators sharing oversight[7]. The pool of candidates for asset-backed originations is plentiful and the number of potential investors is large. The market attracts significant liquidity and secondary markets make for transparency and efficient pricing.

Liability-based securitizations in general

9. Liability-based securitizations have had a less spectacular history. While asset-backed securitizations span the spectrum of all types of business, liability-based securitizations are mostly confined to the insurers and reinsurers[8]. This is only natural however, given that other financial institutions tend to focus on the asset-side of their balance sheets while insurers and reinsurers focus on the liabilities.

10. Liability-based securitizations were first suggested in 1973[9]. Though clearly derived from more developed asset-based securitizations methodologies, they were much slower to evolve however. For many in the insurance industry, the original promise shown by these new

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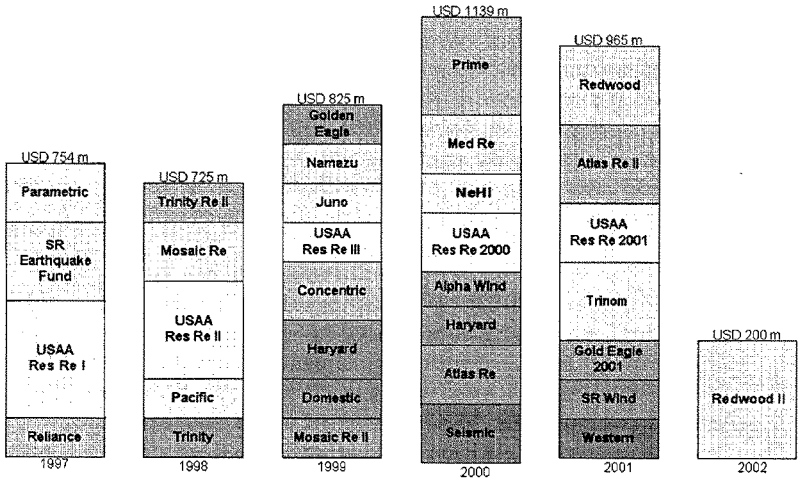
[7] The recent events at Enron have cast some doubt on this however as regulatory agencies, such as the Securities and Exchange Commission in the United States, are re-examining the role that transformer vehicles play in all securitizations. The same tools that are used to create asset-backed securities were used by Enron to construct an elaborate camouflage for the off-balance sheet transactions that ultimately caused its collapse.

[8] The one exception is the Tokyo Disneyland transaction (see page___), in which insurance-linked risks were transferred to the capital markets by a non-insurance firm.

[9] See (1973) An inquiry into the feasibility of a reinsurance futures market. Journal of Business Finance.

methods has fallen short of expectations. While asset-backed securitizations have grown at the rate of 30% annually into a $2.5 trillion market, the market for liability-based securities is much smaller. Since inception, only about $10 billion of these types of securities have been issued, with about $2.5 billion currently outstanding. Most of these have been in the form of catastrophe bonds, also known as "CAT bonds". Since 1996[10], over $5 billion of these CAT bonds have been issued and annual issuance is expected to grow to more than $5 billion by the year 2003.

Cat Risks Transferred to the Capital Markets Since 1997



11. Two methodologies are currently in use for liability-based securitizations in the insurance sector:

    (i) contingent capital instruments, designed to pre-finance insurance-related losses but without a transfer of the underlying insurance risks from insurer to capital market investors;

[10] The first CAT bond transaction was attempted by USAA in 1996 but was withdrawn without explanation.

(ii) insurance-linked instruments, designed to finance insurance-related losses with a transfer of the underlying insurance risks from the insurer to capital market investors.

12. By transferring insurance-related risks to the capital markets, insurance-linked securities ("ILSs") provide insurers and reinsurers with new tools for diversifying risks. Prior to securitizations, the purchase of reinsurance and retrocessional capacity were the only options. Hence, these types of securitizations are both a substitute for and a complement to the more traditional reinsurance arrangements of the past.

13. ILSs continue to remain the subject of much debate[11]. Moreover, it would appear that many firms treat their forays into the market with the caution of experimentation. Investor interest continues to be limited, though it is certainly expanding, as we shall see. The costs both from a pricing standpoint as well as transaction costs remain high compared to reinsurance and compared to other more familiar or standardized financial instruments. Individual transaction capacity also tends to be much more modest in size.

14. Nonetheless, while the liability-based market remains embryonic, many experts forecast significant increases in growth in years to come[12], particularly in an environment of hardening markets for insurance. Many of these experts point to the spectacular growth of asset-backed securities as a model for ILSs. Their expectations remain untested.

15. Immediately after the events of September 11, 2001, there were heightened expectations for the insurance-linked securitizations market. Steep increases in reinsurance premiums were expected to make securitizations relatively more attractive. Indeed, spreads for catastrophe bonds, for instance, widened significantly in the secondary market. It would appear however that the influx of new capital into the reinsurance industry after 9/11 (ranging to about $28 billion to date) has mitigated the expected surge in securitizations. Spreads for insurance-

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[11] See, for example, Bault, T., Still talking different languages. Reactions, December 2001, page 30.

[12] See, for example, Zolkos, R., Mispricing besets risk securitizations. A report on the Second Annual Risk-Linked Securities Conference, March 20 – 22, 2002, Aventura, Florida, as reported in Business Insurance, April 2002.

linked securities have narrowed again and today they are only about 10% wider than pre – 9/11.

16. Both asset-backed and liability-based securitizations are of interest to insurance regulators. Insurance and reinsurance firms are major players in both markets as originators and as investors. Moreover, an active market, including a secondary market, in CAT bonds has now developed. Insurance and reinsurance firms are active participants in this market.

THE PROCESS FOR ASSET-BACKED SECURITIZATIONS

17. In an asset-backed securitization, a firm issues securities whose costs are determined by the quality of the specific assets that back the securities. Because these assets secure the borrowing, and because they may be of higher quality than the entire firm, an asset-backed securitization typically results in both an increase in borrowing capacity and a lower cost of capital for the firm. In addition, the securitization moves the particular assets off the originator's balance sheet, thereby reducing the firm's leverage. ABSs also facilitate the release of regulatory capital. That capital can then be put to more productive use, possibly at a cost lower than the normal cost of capital.

18. On the demand side, investors continue to show a healthy appetite for asset-backed securities as the volatility of equity markets world-wide and the economic uncertainties of a recession have driven investors into the relative safety of fixed-income securities. Strong demand has also been supported by the existence of a liquid secondary market, which reflects the origination of larger-size issues and the increasing use of master trust structures that enable an originator to place numerous issues through a single program.

The structure of asset-backed securitizations

19. The typical structure of an asset-backed securitization consists of a transfer of assets to a Special Purpose Entity ("SPE"). The SPE serves to separate the legal ownership of the assets from the originator. As evidence that such a separation has indeed been effected, the originator generally secures a legal opinion that certifies that the sale of the assets to the SPE represents a "true sale". The prime determinant of whether a

"true sale" in fact has been achieved is whether or not the originator retains any or all of the risks pertaining to those assets. No actual physical transfer of assets need be involved however to make a securitization effective. Such so-called "synthetic" transfers are common[13].

20. The SPE can be a corporation, a partnership, or a trust. It is quite common for an SPE to take the form of a trust because the formation of a trust is a relatively simple matter. A corporation, on the other hand, requires directors, equity, articles, and may subject its shareholders to double taxation. The main concern is less over form however and more over whether or not the originator manages to perfect the segregation of the assets within the entity whatever its form. For, failure to do so, if the originator should go bankrupt, might then cause the reversion of the assets to the originator, rather than to the benefit of the investors.

21. An effective SPE can be described as an off-balance-sheet, non-consolidated[14] entity with the following characteristics:

    (i) Non-affiliation with the originator;

    (ii) Independence from the originator; and

    (iii) Bankruptcy-remoteness from the originator.

22. Given its separation from the originator, the SPE's credit risk is based solely on the quality of the assets transferred to it. The originator's credit rating is irrelevant. With its own frequently enhanced credit rating, the SPE can then proceed to issue a variety of investment and non-investment grade tranches of securities with appeal to a variety of classes of investors.

23. A simple schematic structure of an asset-backed securitization would look as follows:

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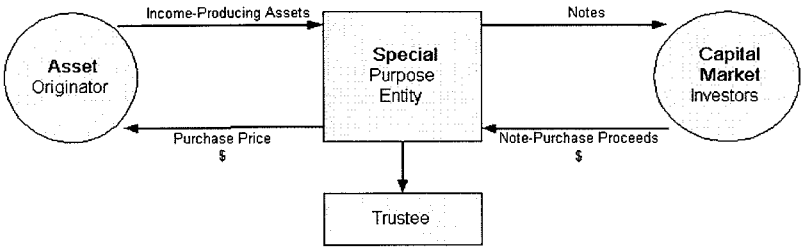
[13] Enron, for instance, formed and owned an SPE to purchase its Houston headquarters and then lease it back to the company. Investors purchased notes from the SPE in order to fund the building. For tax and accounting purposes, this arrangement permitted Enron to remove mortgage debt on the building from its balance sheet while still claiming the interest thereon as a tax deduction.

[14] A company can keep a SPE off its balance sheet under U.S. GAAP so long as an independent third party owns a controlling equity interest equivalent to at least 3% of the fair value of its assets. In the wake of Enron, FASB may raise this to 10%.

A Simple Asset-Backed Securitization.



An illustration of ABSs: Collateral Mortgage Obligations. The basis of a CMO is a mortgage loan from a financial institution to the purchaser of a home. The loan is usually repaid with regular monthly payments composed of principal and interest on the loan.

To obtain additional funds for more mortgage loans, a financial institution either accumulates pools of loans with similar characteristics together to create securities or sells the mortgage loans to issuers of mortgage securities. In either case, a stream of income from repayments by homeowners within the different pools backs up the securities.

The fact that a homeowner can prepay the mortgage by selling, refinancing, or otherwise paying off the loan has of course a significant impact on the pattern of these payments within the pool.

The mortgage collateral is placed into a protective trust structure, maintained exclusively for the benefit of investors. The originator then creates a multi-class issue, known as "tranches". Different tranches attract different types of principal and interest payments. Investors are thus offered securities that have appeal to different investment objectives as different tranches have different cash flow characteristics.

In an environment of falling interest rates, CMO investors may find that their principal is returned to them sooner than expected ("call risk") or, when interest rates are rising, later than expected ("extension risk").

The "plain vanilla" type of CMO provides for the tranches to be paid in sequence. The trust would issue different classes of bonds, typically classified as A, B, C, and Z, with various maturities and

coupon rates. The different tranches are then retired in sequence by targeting all principal returns to only one tranche at a time. For example, A, B, C, and Z all receive scheduled interest payments, but principal will only be paid to tranche A. This will continue until A, B, and C are retired, at which point tranche Z, which received no interest and principal until A, B, and C are retired, will begin to pay both principal and interest to the investor.

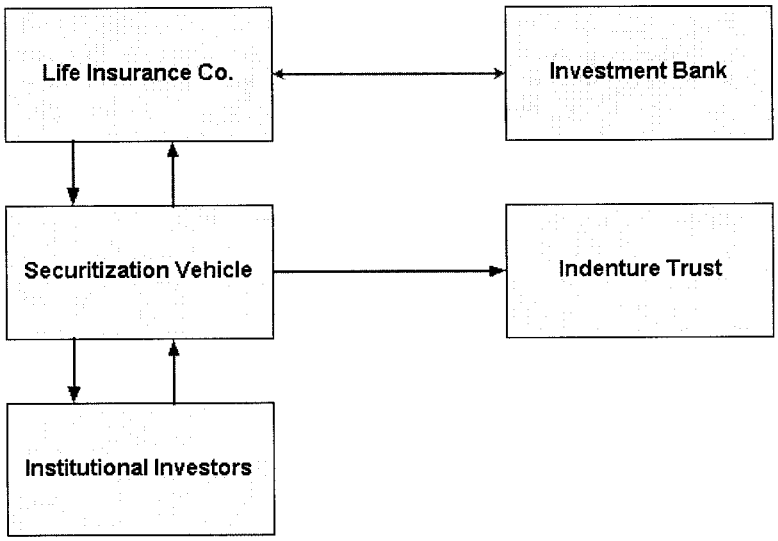
24. Life insurance securitizations have also been structured along similar lines:

An illustration of a life insurance premium asset-backed securitization. Hannover Re has been at the forefront of this type of securitization. Named L1 to L4, these transactions been facilitated by an Irish SPE, Interpolis Re, and have provided for the securitization of 75% quota-share reinsurance for its book of European business (50 million euros in L1), European and North American business in L2 in 1999, emerging Asian markets business in L3 in 1999, and German-speaking countries business in L4 in 2000. More recently, Converium Reinsurance has engaged the same SPE to securitize a book of German, French, and Italian life reinsurance business. These types of securitizations are designed to relieve surplus constraints caused by the requirement to write off acquisition expenses in the year in which they are incurred[15]. A frequent problem in these transactions is the fact that investors do not wish to assume underwriting risk. Hence, the Converium deal for instance, includes a conventional stop-loss reinsurance coverage in order to protect the cash flows expected by investors.

[15] This issue does not arise under U.S. GAAP.

25. Life insurance companies have also used life insurer funding agreements to back publicly offered notes. Over $50 billion of these notes have been issued, mostly to non-U.S. investors. The programs are known as European Medium-Term Notes ("EMTN"), and, more recently, U.S. insurance regulators have permitted Global Medium-Term Notes to be distributed to U.S. investors as well. These notes had the following structure:

Structure of Funding Agreement Securitization



THE PROCESS FOR LIABILITY-BASED SECURITIZATIONS

Contingent capital instruments in general

26. These instruments are designed to allow the originator to pre-finance defined losses. Since traditional financing often becomes onerous or unavailable after a major loss, contingent capital arrangements can provide a level of comfort and assurance. The contingent instruments typically provide for the issuance of shares of stock -- often preferred

stock -- upon the occurrence of a pre-specified event at a pre-specified price.

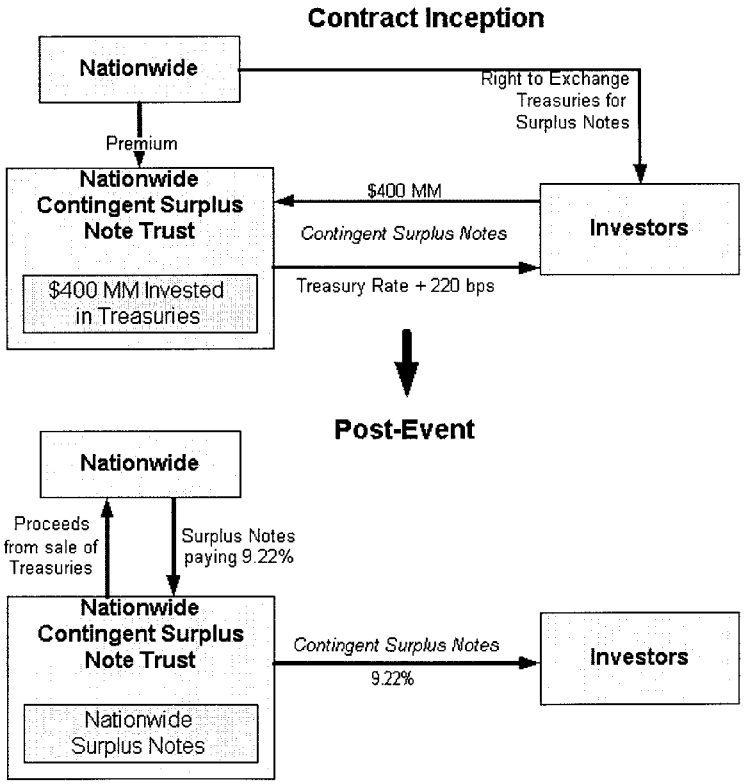
Contingent debt instruments

27. In a typical transaction, an insurer issues notes – usually contingent surplus notes backed by surplus earnings[16] -- to an investment trust set up by a financial intermediary. The arrangement gives the insurer the right, under specified circumstances, to issue surplus notes to the trust in exchange for cash or liquid assets. Investors capitalize the trust in the agreed upon amount in return for participating in the benefits of the trust. The trust invests these proceeds in high-grade securities. Contingent surplus notes, paying an agreed upon interest rate, are issued to the investors by the trust. The insurer pays fees to the trust in exchange for the commitment to purchase the insurer's surplus notes.

[16] Surplus is and insurance company's statutory net worth. Surplus notes are subordinated debt obligations but are considered equity capital for statutory purposes.

An illustration of a contingent capital transaction: The Nationwide Mutual surplus notes deal. In 1995, Nationwide Mutual purchased an option to issue up to $400 million in surplus notes to a guaranteed buyer, that being a Nationwide trust. Investors purchased bonds issued by the trust. Ten-year U.S. Treasury securities fully back these bonds. If Nationwide exercises its option to issue surplus notes to the trust, the collateral backing of Nationwide trust bonds would change from Treasuries to the surplus notes. The trust would sell its holdings of Treasuries in order to purchase the surplus notes from Nationwide. Coupon payments were the same at 9.22%, regardless of whether the Treasuries or the surplus notes back the payments.

The Nationwide Mutual Contingent Surplus Note Transaction



Thus an insurer can tailor the transaction to his specific needs. Investors can earn a higher return by investing in a contingent surplus note trust than by investing directly in the high-grade securities. The trust can pay higher returns as a result of the fees collected on behalf of investors from the insurer. Investors receive periodic payments of principal and interest, even after the insurer suffers a catastrophic loss.

28. There are some drawbacks to arrangements of this sort. State insurance department approval is required for the issuance of surplus notes. The notes subordinate claims to other claims on the insurer and can only be repaid with the consent of the department of insurance.

Contingent equity instruments

29. Another form of contingent financing is a catastrophe equity put[17]. The put gives an insurer the right to sell a specified amount of its stock, most often common stock, to investors at a predetermined price if catastrophe losses surpass a specified trigger. The insurer thus faces counterparty risk and change in control risks in this type of transactions. The counterparty risk can be minimized by collateralization and the change in control risk can be mitigated by the issuance of preference stock instead of common shares.

30. Again there are significant drawbacks to equity puts. Investors face the risk that they will end up owning or controlling shares in an insurer that is no longer viable. The risk can be minimized by allowing for the exercise of the put only within certain loss limits. Moreover, investors also bear the risk of downward price movements in the insurer's stock.

The transfer of insurance risk: Insurance-linked securities

31. As stated earlier, ILSs transfer risk from the originator of the transaction to capital market investors. While most of ILS activity has involved the transfer of catastrophe risks to the market, other types of risk are also thought to be ripe for securitization. These include personal lines in automobile and homeowners insurance, workers' compensation

[17] CatEputs are service mark of Aon Corporation.

coverages, political risk exposures and D&O coverages, as well as life and health insurance[18].

32. As we saw earlier, several transactions in Europe have involved life insurance premiums, while at least one transaction involved the transfer of credit risks to the capital markets.

[18] It is interesting to note that initial investigations into the feasibility of insurance-linked derivatives focused on health insurance securitizations. The Chicago Board of Trade, for instance, first investigated an indexed product based on medical claims reported to ten different Blue Cross/Blue Shield companies. That pursuit was abandoned in favor of catastrophe-linked securities. To date, there have been no known securitizations of health-related exposures. See McDonald, L., Beyond Catastrophes. Best's Review, April 1999.

An illustration of credit risk transfer: The Gerling Credit transaction. In 1999, Gerling Credit Insurance of Cologne, Germany originated $500 million three-year bond issue linked to credit risk. The transaction was structured to attract investment grade investors. It consisted of an AA-rated tranche priced in Deutschmarks at 45 basis points over Euribor; an A-rated tranche priced at 85 basis points over Euribor; and a BBB-rated tranche at 170 basis points over Euribor. The bonds are linked to an index in order to mitigate moral hazard with respect to the underlying credit risks.

33. Non-insurers have also taken advantage of transferring insurance-linked risks into the capital markets.

The Tokyo Disneyland transaction: The owner and operator of Tokyo Disneyland is Oriental Land Co. (hereinafter "Oriental"), a non-insurer. Tokyo Disneyland is built to withstand a powerful earthquake. But such an earthquake would greatly disrupt its flow of visitors. Accordingly, Oriental issued two separate CAT bonds. A Cayman-incorporated SPV issued $100 million in floating rate notes for a five-year period. Payments are based on parametric triggers related to magnitude, location, and depth of a quake. The notes are BB+ rated by S&P and by Duff & Phelps and pay 3.1% over LIBOR. Oriental also originated a second issue of $100 million in floating rate extendible notes that are A-rated and, when parametrically triggered by an earthquake, provide capital following the business disruption caused by the earthquake.

34. Since the purchase of reinsurance is usually a viable alternative to an insurance-linked securitization, a potential originator must weigh the costs and benefits of either approach. The following are some of the factors to be considered.

Originating an insurance-linked securitization: Factors for consideration

35. **A firm can diversify from its reliance on the traditional markets:** An insurer, reinsurer, or other firm may find it prudent to diversify its sources of insurance and reinsurance capacity so as not to be fully dependent on the traditional market. ILSs permit firms to alleviate the

impact of capacity constraints within the reinsurance market. Pricing and availability in the traditional reinsurance market are constrained by risk concentrations, by modest capacity based on $186 billion in industry surplus, and by catastrophic events. Reinsurance pricing tends to be cyclical or spiked in nature. Capital markets can provide a stable alternative to reinsurance. It has been argued that capital markets can more readily absorb losses of USD 50-100 billion[19], though that remains untested by the ILSs market. To date, there have been no major events covered by ILSs and investors have yet to react to the experience of losing all or part of the principal amount invested.

36. **A firm can find coverage for hard to place risks:** The traditional reinsurance market does not cover certain risks, such as financial risks (e.g. interest and exchange rate risk). Furthermore, repeated losses (e.g., losses from windstorms in Florida) have led to reinsurance becoming very expensive or totally unavailable. Securitization can provide alternative capacity for the coverage of these difficult to place risks.

37. **ILSs can free up capital for more productive activities:** Capital to satisfy regulatory requirements can be freed up to support additional underwriting or to enhance returns on shareholders' capital.

38. **ILSs can provide multi-year cover at a fixed price:** Securitizations covering several years at a fixed price are now common, in contrast to reinsurance, which is usually priced annually[20]. This has a two-fold benefit:

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[19] In 1992 Hurricane Andrew caused USD 19.6 billion of insured losses and could have caused more than USD 50 billion of insured losses had it hit Miami, only a few miles away. Since total reinsurance capacity in 1992 was approximately USD 200 billion, a USD 50 billion loss would have represented 25% of the industry's capital base at that time. It is also estimated that it would have caused insolvencies of 36% of US property/casualty insurers. In 1994 the Northridge Earthquake and in 1991 Typhoon Mireille resulted in USD 13.5 billion and USD 6.5 billion respectively. Ten insurers were rendered insolvent. This caused a doubling of reinsurance premium rates and a reduction in the catastrophe coverage available to primary insurers. Although reinsurance capacity in 1999 was estimated to be around USD 300 billion, insured values have also been rising due to growing population densities, increased wealth, and increasing concentrations of property in endangered areas. It is thought that a disaster on a similar scale to Hurricane Andrew today would cause considerably more damage and it is feared that the (re)insurance industry would not have the capital to meet another such disaster. The impact of the events of September 11, 2001 on the industry remain to be seen.

[20] Multi-year reinsurance contracts of 2 or 3 years' duration are becoming more common. Nonetheless, securitizations still have an edge, given that securitized transactions of 7 to 10 years' duration appear to be feasible.

(i) Reduced exposure to the volatility of traditional reinsurance pricing; and
(ii) Lower the administration costs through amortization and removal of the need to renegotiate a new reinsurance program every year. Fixed cost, such as underwriting fees, can be amortized over multiple years.

39. **ILSs can provide multi-peril, multi-line, multi-party, multi-jurisdiction, and multi-contract coverage:** Several perils from several parties, cutting across multiple lines in a variety of jurisdictions can be covered concurrently e.g., European wind and Japanese typhoons can be combined with U.S., Japanese, and Turkish earthquakes. Several drawbacks to such arrangements however also exist:

    (i) The investors may want to be compensated for taking the risk that market conditions might change while they are locked in; and
    (ii) The underlying risks may also change over time, hence creating a need for periodic re-assessment or re-calibration.

40. **ILS can reduce disclosure requirements:** Compared with a traditional reinsurance contract, the submission requirements for substantiating a claim in a securitization may be minimal, as in the case of non-indemnity triggers. This may result in cost reductions as well as litigation relief for the originator.

41. **ILSs can reduce credit risk:** The quality of reinsurance security is an important issue in assessing a ceding insurer's capacity to pay claims. Major catastrophes however exacerbate the risk of insolvency, and thus add to credit risk. A securitization mitigates this risk because the potential claims are fully or partially (depending on the type of trigger) collateralized in the SPE. The money from the sale of the securitized instruments is invested in a fund established exclusively for the payment of claims.

42. **ILSs can reduce the likelihood of future contract disputes and can speed up the claims payments process:** Depending on the trigger, securitized transactions are expected to respond quickly and cleanly to a

loss event. Unlike traditional reinsurance, where contractual disputes and delays in paying claims are not uncommon, ILSs generally have clear triggers.

43. **ILSs add competition and potential cost savings to reinsurance markets:** Costs are a major determining factor in the choice of a securitization over reinsurance. The pricing of the security, together with the transaction costs, needs to be competitive. When reinsurance rates rise, as they did in the early 1990s, interest in securitization increases; when reinsurance rates fall, the associated costs make securitization transactions less competitive.

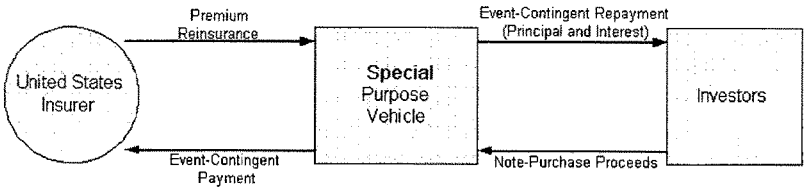
    In 1999, transaction costs for a securitization were estimated to be US$1 million. Fixed costs are high because of the number of parties involved. Costs are also high because each transaction is unique and documentation is not yet standardized, although there is some evidence that more standardization is occurring. Costs have been coming down however.

    Certainly, other costs associated with a securitization may be lower than for a reinsurance contract. For example, securitization minimizes the likelihood of disputes, a common and costly aspect of reinsurance; and securitizations are often arranged with an offshore SPE where the cost of regulation is lower. Moreover, capital market investors do not require a stand-by charge such as a reinsurer requires when setting aside capacity. Such charges can be steep even when reserving capacity for extremely low loss probability events.

The structure of a typical insurance-linked securitization: Issuing a catastrophe bond

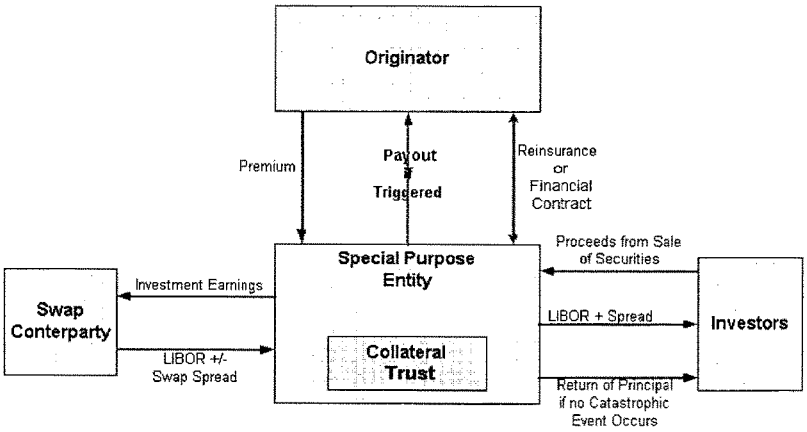
44. CAT bonds evolved in the mid-1990s to provide additional capacity to insurers and reinsurers. Following Hurricane Andrew in 1992 and the Northridge Earthquake in 1994, property catastrophe reinsurance became scarce and for some insurers unavailable. Pricing skyrocketed when available at all. That experience caused firms to explore alternatives. Based on the experience with asset-backed securitizations, the following figure illustrates what a simple insurance-linked securitization might look like:

A Simple Insurance-Linked Securitization



45. The fundamentals of CAT bond are simple: A firm transfers a portion of its catastrophic risk to the capital markets by issuing a taxable bond. The return of principal on CAT bonds is tied directly to the occurrence of low probability/high severity catastrophic events such as earthquakes and hurricanes. Some bonds are principal-protected in the sense that the originator may pay back all or part of the principal over a number of years after the catastrophic event. Others put the entire amount of principal at risk.

A Typical Catastrophe Bond Structure



Depending on the amount of risk transferred, the bonds will either be rated as investment grade or non-investment grade. The rating is established by independent rating agencies that make their own assessment of the amount

of risk that the bonds are subject to. The interest rate on the bonds will depend on the ratings from these rating agencies. Of course, the risks can be sliced into different tranches, each with different terms and with different ratings. The interest rates can range from 2.5% to 15% above LIBOR (currently about 4%) depending on their ratings[21].

46. All insurance-linked securitizations face the same issue: the originator wants to purchase loss coverage with the same regulatory, accounting, and tax treatment as reinsurance. Investors however are generally not licensed to sell insurance or reinsurance products and are more interested in purchasing capital market securities. Hence, each securitization must find a means for transforming reinsurance payments into capital market returns. Historically, this transformation has been achieved through use of a Special Purpose Vehicle ("SPV").

Transformer vehicles: Special purpose vehicles

47. In a typical CAT bond, the originator enters a reinsurance or financial contract with a Special Purpose Vehicle ("SPV", sometimes also referred to as a Special Purpose Reinsurance Vehicle of "SPRV")[22]. The originator pays premiums to the SPV in order to purchase reinsurance protection.

48. The SPV will be a fully-funded, bankruptcy-remote entity, most likely domiciled in a jurisdiction with favorable tax and regulatory environments such as Cayman Islands, Bermuda, and Ireland[23]. The SPV serves to transform the reinsurance premium into insurance-linked securities sold to investors. While the entire SPV represents the reinsurance security, it is capitalized with only a small amount of common equity, typically $12,000. The common equity is typically not at risk and is often assigned to a charitable trust as one more indicia of separation between originator and SPV.

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[21] Recent issues have also used Eubor rates as benchmarks.

[22] For historical reasons, the "SPE" nomenclature is more common in asset-backed transactions, while insurance-linked securitizations tend to employ the "SPV" or "SPRV" terminology. In practice, there is no difference between the two.

[23] It is essential to ensure that the SPV is tax neutral. While in the United States the NAIC has adopted a model law for insurance-linked SPV's, and at least the States of Illinois and South Carolina have enacted the model law, an on-shore facility simply is not economically feasible under current tax law. Only in an offshore entity can the funds provided by investors be protected from taxation. In the U.S., for instance, thin capitalization rules and other tax rules make tax neutrality unlikely. Such offshore entities usually require offshore Board of Directors meetings.

49. For firms that report according to U.S. Generally Accepted Accounting Principles ("GAAP"), a preference share tranche of at least 3% is often included in order to avoid consolidation under GAAP. The preference shares usually have principal and interest components like the notes. The spread is often higher however given that these shares are often structured to take a hit on a "first dollar loss" basis. In other words, after a qualifying event, preferred shareholders would suffer losses before the investors in the bonds would lose anything. For this reason, preference shares may pay higher coupon rates than the notes and would be sold to specialist investors. The spread is generally 1% to 1.5% wider than for the remainder. The remainder of the SPV's capitalization consists of capital raised through the issuance of notes.

50. The SPV may have to obtain an insurance license for an additional fee and may be subject to insurance department regulation in its domicile. Whether a license is necessary or not is determined by the contractual arrangements between the originator and the SPV.

51. The type of contract between originator and SPV will be determined by a legal analysis of the risks transferred. Typically, if the transaction is indemnity based, then a traditional reinsurance contract will be entered into between the originator and the SPV. If, on the other hand, the transaction is parametric or index based, the contract will be of a financial nature. Hence, if it is reinsurance, the SPV will generally need to be licensed as a reinsurer in its domicile. No such license will be required when the contract is financial in nature.

52. The SPV exists solely for the purpose of covering the particular catastrophic losses. If the specified event does not occur, the SPV is obligated to pay principal and interest on the bonds. If the specified event occurs, the SPV is obligated to pay losses under the contract and not obligated to pay principal and interest on the bonds, in whole or in part.

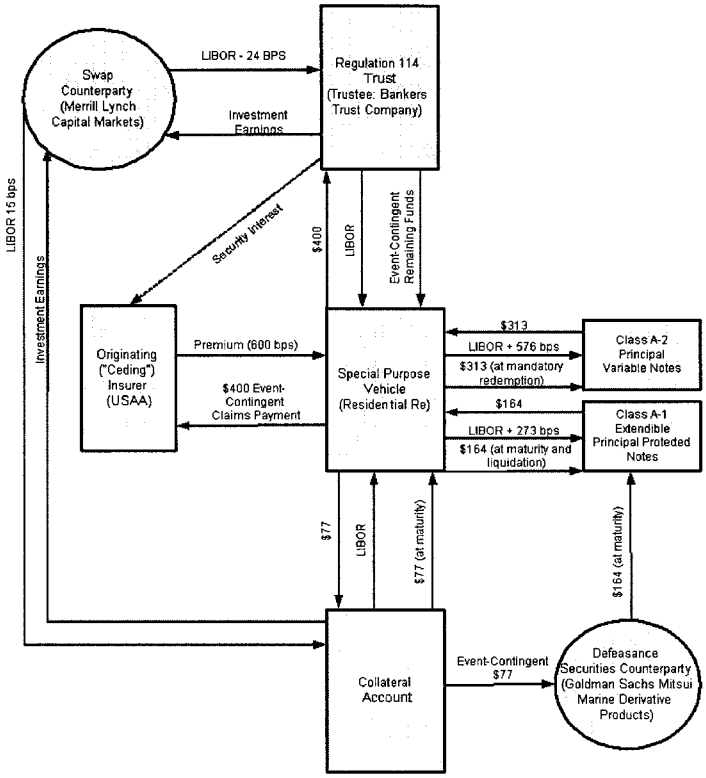
53. The SPV's obligations under the reinsurance or financial contract are collateralized by the proceeds from the sale of CAT bonds to investors. These funds are then invested in a trust and swapped into a floating LIBOR-based rate of return with appeal to investors. The sum of the LIBOR-based rate of return plus reinsurance premiums paid by the

originator to the SPV would in turn be paid to investors as coupon on their investment in the CAT bonds. In the event that the specified catastrophe occurs, funds in the collateral trust would be paid to the originator, thus reducing or eliminating the amount in trust available to be returned to investors at bond maturity.

54. One of the first securitizations of catastrophic risks was originated by USAA in 1997. The format employed by USAA -- commonly referred to as the Residential Re transaction, the registered name of the SPE employed by USAA -- has become a model for most CAT bond transactions since. A description of the transaction follows. Since then, U.S. quake risks in California and the Midwest, U.S. wind exposures, Japanese quake and typhoon exposures, French windstorms -- all have been the subject of successful CAT bond issues. As an alternative to the issuance of CAT bonds, some recent transactions have extended the concept to the use options on CAT bonds. The Allianz transaction, described below is an example of such a transaction.

An illustration: The Residential Re transaction. In 1997, USAA originated a securitization of $477 million in CAT bonds, representing 80% of $500 million of its aggregate losses from an East Coast hurricane in excess of $1 billion in one year. One tranche, $164 million in AAA rated notes, was principal-protected at LIBOR plus 273 basis points. The other tranche, $333 million in BB rated notes, placed both principal and interest at risk at LIBOR plus 576 basis points. The cost of the transaction to USAA was the equivalent of a 6% rate-on-line plus transaction fees of another $10 million or so. The transaction is more fully described in the following figure:

The Residential Re Transaction



An illustration: The Allianz transaction in CAT bond options. In 1999, Allianz, the German insurer, originated a three-year CAT bond option for European wind and hail exposures. Gemini Re, a Cayman SPV, facilitated the transformation of $150 million in losses in excess of DM360 million into a put option for CAT bonds from investors. The investors receive a commitment fee. The trigger is reset annually in order to permit Allianz to maintain a 3.6% loss probability. Accordingly, Allianz manages to retain considerable flexibility in terms of its right, but lack of obligation, to acquire coverage from the option holders.

Such flexibility can be extremely valuable given the high volatility of retrocessional alternatives. Other insurers and reinsurers have engaged in similar "optionable" deals (e.g., Yasuda in 1998 and SOREMA in 1999).

The components of a CAT bond

55. The specific components of the transactions are looked at further[24]:

The contract between the originator and the SPV: The issue of whether a reinsurance contract or a financial contract is appropriate was discussed in paragraph 51. Under the terms of the contract, the originator pays a premium – in the case of a reinsurance contract, the premium is the equivalent to the rate-on-line for a typical reinsurance construct – to the SPV.

The SPV and the investors: The SPV sets up a collateral trust. Funding for the collateral trust comes from the investors in the CAT bonds issued by the SPV. These bonds offer an interest coupon equal to:

(i) LIBOR plus or minus the swap spread[25]; plus
(ii) The premium or rate-on-line paid into the SPV by the originator.

The return of principal to investors under the terms of the notes is usually dependent on the amount of CAT-related obligations owed by the SPV under its contract with the originator. A number of transactions have provided for the repayment of all or part of the principal (with or without interest) even after an SPV has paid out all of its funds to the originator for claims stemming from qualifying event. Not infrequently, such principal repayments are tied to a future commencement date, with payouts ranging over a period of time.

The swap contract: The proceeds from the investors, now placed in the collateral trust, are then invested in high credit quality assets. The specific types of assets that qualify are generally the subject of

[24] For a more detailed discussion regarding the various components and participants, see Lehman Brothers, California Earthquake Authority: Review and application of capital market products. May 2001.
[25] The swap spread results from swapping the interest payments on the assets in the collateral trust with the swap counterparty.

negotiation between the originator, the placement agent, and the rating agencies. There is inevitably a difference between the market interest rate on these assets over the time of the bond and the spread required by investors when the bond is closed. In order to ensure that investors are paid a market interest rate, a counterparty is engaged to swap the investment earnings on the collateral to LIBOR plus or minus the swap spread. The amount of the spread above or below LIBOR depends on the type of swap, the identity of the counterparty, and the credit quality and investment yield earned on the assets.

56. There are at least two types of swap arrangements that are in use in these types of transactions. The originator generally makes the choice, depending on his risk preferences.

    (i) A basis swap converts the interest earned on the collateral investments to a LIBOR or EUBOR basis, but the originator retains the credit risk of the underlying assets as well as the risk of assets being liquidated at a value below par (known as "collateral liquidation/spread risk").

    (ii) A total return swap also converts the interest earned to a LIBOR or EUBOR basis, but the swap counterparty assumes the credit risk and the liquidation/spread risk of the underlying assets. In essence, the swap counterparty guarantees both the LIBOR or EUBOR based interest rate and the full return of principal. Thus, principal default would occur only if both the counterparty and the collateral defaulted.

Other transformer vehicles: Protected cells

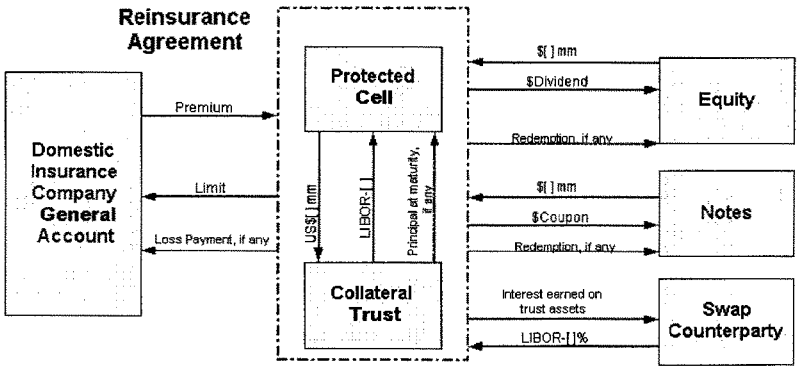
57. Instead of an SPV, an originator can use a protected cell structure to accomplish insurance-linked securitization. Though statutory in nature, a protected cell does not give rise to a separate corporate entity. Hence there are no capital requirements. Instead, an existing insurer or reinsurer contributes assets to a protected cell within its existing corporate structure and, by law, the cell segregates these assets from the remaining general assets of the company. The assets within the cell are only available to creditors of the protected cell. Other creditors must

assert their claims against the remaining general assets of the firm, but not against the assets within the protected cell.

58. In the United States, the protected cell is regulated separately for solvency and can only operate with the prior approval of a plan of operation by the insurance regulator. Because there is no separate corporate entity however, the protected cell is thought to overcome the tax drawbacks of a domestic securitization. The entire tax status and bankruptcy-remoteness of protected cells remains untested and uncertain in the United States however.

59. Other jurisdictions have also adopted the protected cell approach. Guernsey was in fact the first jurisdiction to permit protected cell companies. In Guernsey, a captive insurer can effect a securitization through the use of a protected cell for instance. Royal Bank of Scotland, for example, has applied a protected cell approach both to the conversion of insurance into ISDA ("International Swaps and Derivatives Association") products and to a synthetic securitization of a portfolio of derivative products[26].

Protected Cells as Transformer Vehicles



Other transformer vehicles: Special purpose limited syndicates

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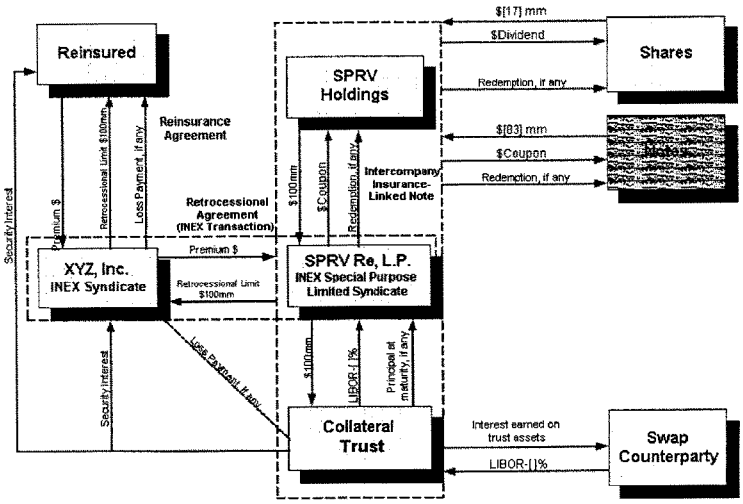
[26] See Alternative Insurance Capital, March 2002, Issue 127, page 3.

60. As a further alternative to the use of SPV's or protected cells in insurance-linked securitizations, the Chicago-based INEX exchange offers special purpose limited syndicates ("SPLSs"). The INEX Board of Trustees and the Illinois Department of Insurance must approve each transaction and each exercises oversight over INEX transactions. An insurer can launch a securitization by transferring the particular risks to a full member INEX syndicate. That syndicate then retrocedes the risks to an SPLS, which in turn sets up a collateral trust account to secure its obligations.

61. The minimum capitalization of the SPLS is $30,000. While subject to U.S. federal and state income taxes, the SPLS is not subject to premium taxes. Under regulations issued by the Illinois Department of Insurance, investors are not in the business of insurance solely for investing in this type of a transaction. The trust must be administered in Illinois and all assets must be located in Illinois.

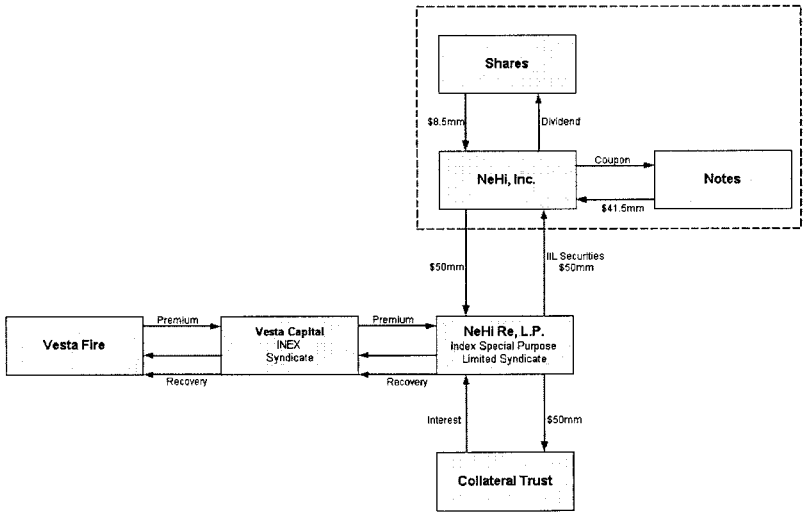
An INEX SPLS as Transformer Vehicle



In 2000, Vesta Fire Insurance Corp. securitized a $50 million layer of property loss exposures. The following is a description of the transaction:

An INEX illustration: The Vesta transaction: In March of 2000, the Inex Insurance Exchange announced the formation of Vesta Capital Insurance Syndicate, Inc. (hereinafter "Vesta Capital"), a new underwriting syndicate member owned by Vesta Insurance Group (hereinafter "Vesta"). The INEX Board of Trustees and the Illinois Department of Insurance had approved Vesta Capital for membership. Vesta Capital was capitalized at $30 million. In July of 2000, Vesta Fire Insurance Company, a wholly-owned subsidiary of Vesta Insurance Group, completed a $50 million securitization of property loss exposures to Northeastern United States hurricane exposures and Hawaiian storms. A SPLS named NeHi Re facilitated the transaction, which involved $8.5 million in equity investments and $41.5 million in ILSs. NeHi Re's obligations are fully secured by a fully funded trust agreement. Payments are triggered by computer modeling done by Applied Insurance Research and risks and attachment points are recalculated each year of a three-year term.

The Vesta Transaction



Loss triggers in a CAT bond structure

62. The trigger is probably the single most significant design feature of a CAT bond. It determines how the originator of the transaction recovers its losses after a catastrophic event. While a reinsurance contract generally indemnifies a cedent for actual losses, CAT bonds can be structured with non-indemnity types of triggers such as parametric or industry-wide loss triggers.

63. In designing a particular trigger for an intended transaction, an originator must consider two types of risks:

    (i) "Tail risk" arises because claims can continue to develop and increase above the amount paid and reserved at the end of a loss development period. Investors usually limit that loss development period to no more than 18 months by providing for a commutation of all losses thereafter to the originator. The Northridge earthquake provides an excellent example of how significant tail risk can be. In February of 1994 for instance, industry losses from the quake were estimated at $7.3 billion. By July of 1995, the final estimate had reached $12.5 billion.

    (ii) "Basis risk" is associated with differences between the originator's actual losses and the amount of losses indicated by the trigger. This type of risk exists only in transactions that apply a non-indemnity type of trigger.

    The two types of risk can of course work either for or against an originator.

64. There are methods for an originator to mitigate, but not eliminate, tail risk and basis risk. To mitigate tail risk, an originator can proceed in one of two ways:

    (i) The firm can enter into a reinsurance contract of unlimited duration with a reinsurer. Most likely, that reinsurer would then wish transform that risk by securitizing all or a portion thereof with an indemnity- or an index-triggered securitization.

(ii) Alternatively, an originator can enter into a specific tail risk reinsurance contract with an SPV in conjunction with its own indemnity-triggered securitization.

65. To mitigate basis risk, an originator can either:

(i) Purchase indemnity reinsurance from a transformer or a fronting reinsurer, which then proceeds with an index-triggered securitization of the associated risk; or

(ii) Proceed with a direct index securitization with additional reinsurance for basis risk.

Regardless of the type of trigger, each and every securitization involves a further type of risk, namely "model risk". Modeling methodologies and technologies of an extremely complex nature are an essential part of each of these transactions. Hence, the assumptions regarding the model's choice of variables for specification, the sensitivities of these variables to various assumed conditions, and the existing correlations among these variables, are of vital importance to matching the model with the reality of catastrophic loss for a particular originator. One might add that thoughtful, careful, and thorough modeling under a wide variety of conditions and assumptions is also an excellent way to minimize excessive basis risk.

Indemnity triggers

66. An "indemnity" trigger links recovery to the actual loss incurred by the originator. The bond's attachment, defined as the point where insured losses exceed an amount certain, determines when the principal invested begins to be tapped. The exhaustion point is reached when the principal has been fully tapped. The entire process is modeled of course so as to generate investor interest. Hence, an indemnity trigger creates model risk and tail risk but no basis risk. As will be seen shortly, indemnity triggers, while seemingly simple and attractive from an originator's point of view, actually also entail an additional risk: an indemnity trigger adds a potential liability risk because of certain disclosure requirements.

67. A further drawback to an indemnity trigger is the potential for adverse selection. Since the particular risk zones that are part of the

securitization are typically selected and agreed upon in advance, while of course an ongoing flow of risks in and out of the zones in to the normal course of business continues, investors tend to become concerned about the quality of the business flow. Moreover, investors tend to have concerns regarding the claims settlement process. Indeed, with an indemnity trigger, incentives favoring moral hazard or sloppy claims handling might in fact created. Claims can be inflated or at least not carefully scrutinized when losses reach into the layer covered by the securities. Hence, it is common to find investors demanding shared participation by the originator in the transaction so as to align the interests of the two parties. 10% plus from attachment to exhaustion usually satisfies investors' concerns.

LET'S PROVIDE A DETAILED DESCRIPTION OF AN INDEMNITY TRIGGER IN A SPECIFIC TRANSACTION

Index triggers

68. Instead of an indemnity trigger, a securitization can be structured with an "index" trigger. The trigger links the monies recovered by an originator from investors after a catastrophe to an insurance index (e.g., the Property Claims Service index, the Guy Carpenter index). Complex modeling is used to establish a significant correlation between the behavior of the index and losses that can be expected from the originator's portfolio of risks after a specified event. The idea is establish a match between the actual losses likely to be incurred by the originator after the event, the amount to be recovered from investors, and the distribution of losses by firms that make up the index. In order to achieve such a match, the originator's distribution of business must bear some similarity to the distribution of business for the firms within the index. Index triggers generate both tail risk and basis risk.

69. Lloyd's syndicate 33, Hiscox, has recently securitized a $33 million bond via an SPRV called St. Agatha Re. The bond would cover losses from earthquake in either California or the New Madrid region. The trigger consists of two parts: firstly a low level parametric trigger, and secondly a modeled trigger. The Qualifying Event trigger is parametric but the purpose of this is merely to set a realistic trigger for a loss

calculation, i.e. to eliminate the numerous small earth tremors but to set the level well below the magnitude where significant losses occur. It is only earthquakes of magnitudes above 7 where losses are likely to occur to the bond, so the parametric trigger has no influence on the expected loss of the bond. If the event were deemed to qualify via the parametric trigger, the modeling service, RMS, would then use the fixed model to calculate estimated insured losses for the notional industry portfolio. If the Index Loss calculated exceeded certain dollar amounts then a loss payment would be triggered. The earthquake exposures of Hiscox Syndicate 33 are only relevant to the extent that the syndicate must have experienced losses of at least the amount paid under the reinsurance agreement with St Agatha Re.

Parametric triggers

70. A "parametric" trigger links recovery to the physical characteristics of the event that causes the losses (e.g., hurricane intensity, earthquake magnitude). Losses from the event may or may not match actual losses incurred but, since event parameters are quickly available, parametric triggers generate basis risk but no tail risk. Parametric structures are unlike other triggers. Clearly they add an increased risk of actual losses not matching recoveries. Basis risk tends to go up in these types of transactions therefore. Moreover, the modeling is very different because the probabilistic loss distributions are based exclusively on the physical parameters of the event. Whether quality underwriting or efficient claims management occurs after the event is irrelevant. Hence, unlike in the case of indemnity or index triggers, underwriting or claims practices need not be disclosed to investors. Lower disclosure needs also lessen the likelihood of potential litigation with investors. By the same token, rating agencies and investors scrutiny of the transaction is lower. Parameters tend to be more transparent and objective than indemnity or index calibrations. Hence, investors generally prefer this type of structure. This preference usually is reflected in slightly lower yields being needed to make the deal work.

71. In the Tokyo Disneyland transaction (discussed in paragraph 33), the payout is dependent solely upon the magnitude, location and depth of an earthquake, not on actual property damage. There are in fact two transactions, referred to as Concentric, Ltd. and Circle Maihama, Ltd.

Concentric, Ltd. provides Oriental Land (the owner of Tokyo Disneyland) with earthquake-contingent capital, while Circle Maihama, Ltd. provides it with earthquake-contingent financing. In both cases, there are three rings around a central point at the center of Tokyo Disneyland. The Inner Circle has a radius of 10km, the Inner Ring a radius of 50km, and the Outer Ring a radius of 75km. In order to trigger coverage, an earthquake with an epicenter within the Outer Ring and with a depth of less than or equal to 101km must occur. In the case of Circle Maihama, Ltd. the contingent financing is triggered if the magnitude of the earthquake is at least 6.5, 7.2 or 7.6 on the Japanese Meteorological Agency (JMA) scale for the inner circle, inner ring, and outer ring respectively. In the case of Concentric, Ltd. the principal payout is on a sliding scale depending on the JMA magnitude, and in which radius the epicenter lies. For the inner circle, the payout ranges from 25% at magnitude 6.5 to 100% at 7.5, for the inner ring it is 25% at 7.1 up to 100% at 7.7, while for the outer ring it is 25% at 7.6 up to 100% at 7.9.

Modeled loss triggers

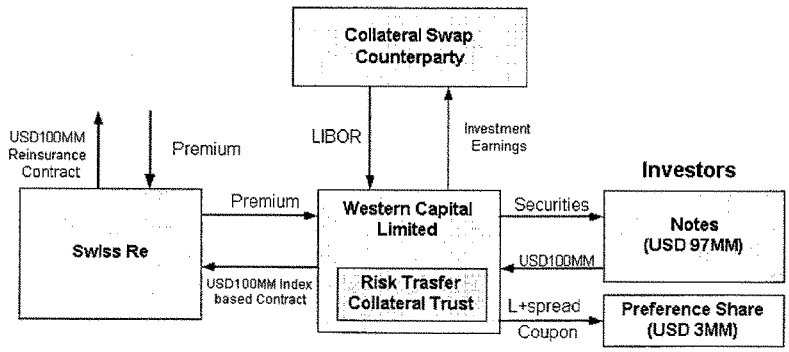
72. A "modeled loss" trigger resembles both an index and a parametric trigger. The originating firm's portfolio is stored in a modeling firm's risk model. When the event occurs, the modeling firm calculates the modeled loss on the portfolio by using the physical parameters of the event. Hence, location and magnitude, for instance, determine the model's payout.

An illustration of a modeled trigger transaction: The St. Agatha Re transaction. Hiscox Syndicate 33, one of the larger Lloyd's syndicates, recently entered into a catastrophe bond transaction designed to protect it against a major earthquake either in California or in the New Madrid region of the US. The bond secures up to US$33 million of property losses excluding liability over three years until April 15, 2005. The bonds were priced at 675 basis points over LIBOR and rated BB+ by Standard & Poor's. The deal uses a modeled loss index as the trigger, and the index is based on two industry models run by Risk Management Solutions (RMS) that measure insurance industry exposure in the two zones. The Qualifying Event trigger is parametric but the purpose of this is merely to set a realistic trigger for a loss calculation, i.e. to eliminate the numerous small earth tremors but

to set the level well below the magnitude where significant losses occur. It is only earthquakes of magnitudes above 7 where losses are likely to occur to the bond. So the parametric element of the trigger has no influence on the expected loss of the bond. If the event were deemed to qualify RMS would then use the fixed model to calculate estimated insured losses for the notional industry portfolio. If the Index Loss calculated exceeded certain dollar amounts then a loss payment would be triggered. The loss payment amount is on a predetermined sliding scale based on the Index Loss. The earthquake exposures of Hiscox Syndicate 33 are only relevant to the extent that the syndicate must have experienced losses of at least the amount paid under the reinsurance agreement with St Agatha Re.

73. While indemnity triggers provide the closest match between an originator's risk and its capital markets protection, non-indemnity triggers allow an originator to avoid detailed information disclosure in an offering memorandum. Because of heightened concern pertaining to the potential legal liability associated with erroneous disclosures in such a memorandum, some originators opt for a hybrid approach to securitizations. An originator enters into a traditional indemnity-triggered agreement with a **transformer vehicle**, which in turn transfers the risk to capital market investors by using an index-triggered securitization. The use of the transformer adds 1% to 1.5% to the cost of the transaction. The recent Western Capital transaction provides an example of this type of approach.

The Western Capital Transaction

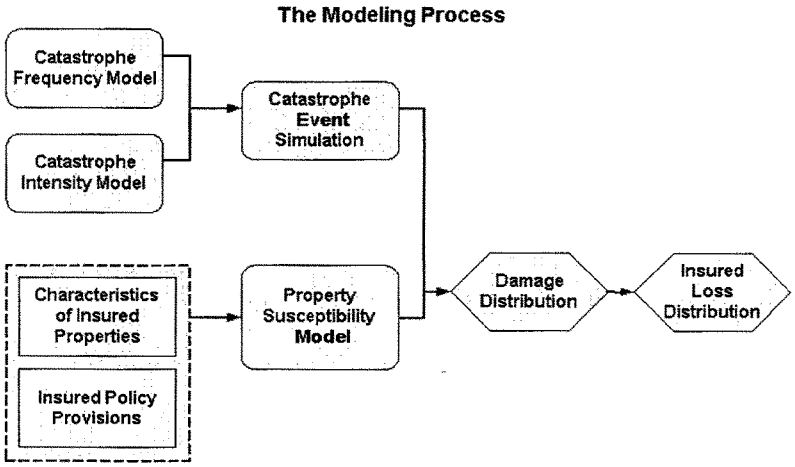


An illustration of a transformer: The Western Capital transaction. The California Earthquake Authority ("CEA") entered into a reinsurance contract with Swiss Re for $100 million in CAT coverage. Swiss Re then entered into a financial contract with a Bermudan SPV, Western Capital Limited. Investors were given LIBOR plus 5.1% notes. A 3% tranche of preference shares was priced at LIBOR plus 6.35%. The financial contract is tied to an industry-wide trigger of California earthquake property losses, once the losses exceed a certain level. Swiss Re retained the basis risk between the indemnity-based reinsurance contract and the index-based securitization. The CEA thus managed to avoid detailed public disclosures regarding its operations. Moreover, as a quasi-public body, the CEA managed to avoid any direct links between itself and an offshore entity such as the SPV.

The role of the modeling agencies in the securitization process

74. Independent modeling is a crucial component to providing investors with confidence in the level of risk involved in the investment. Modeling firms provide an analysis of the risk pertaining to the securitization. A number of companies are recognized for their expertise in modeling. These include Risk Management Services Inc., EQE International Ltd., and Applied Insurance Research, Inc.

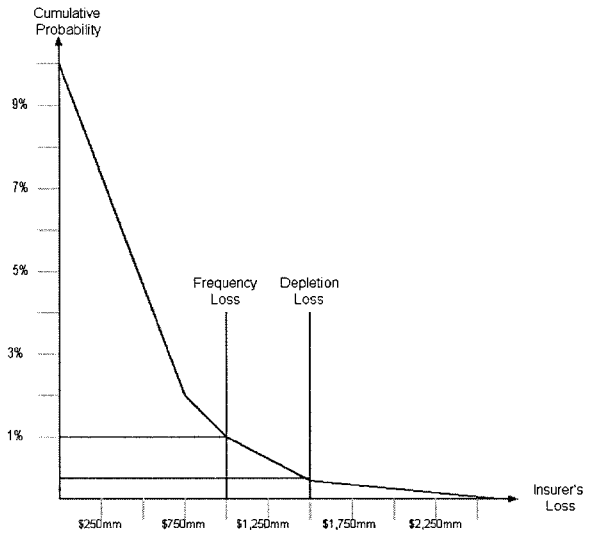
75. From a practical standpoint, it is extremely helpful to an originator to know that the major rating agencies have done extensive examinations and testing of these firms' models, and hence, a transaction can be brought to a successful closing more efficiently when one or more of these firms' models is employed.



76. The risk analysis results also become a major component of the analysis performed by the rating agencies. Moreover, the modeling firm also provides a number of the key ingredients for the ultimate offering circular for the transaction. Of utmost significance is the loss-exceedance curve developed by the modeling firm. The following is an example of loss exceedance curve developed for the Residential Re transaction[27]:

[27] See also Laurenzano, V. L. and Latza, W. D., Securitization of insurance risk. Insurance Securitization Educational Program of the National Association of Insurance Commissioners, San Francisco, December 4, 1999.

Loss Exceedance Curve: An example



77. The loss exceedance curve is the result of repeated simulations of catastrophic events on the insurer's book of business. It tracks the cumulative probabilities of losing various amounts of insured losses from catastrophic events for this particular book of business. It also provides the benchmarks that rating agencies and investors will wish to examine:

    (i) The frequency loss, reflected by the exceedance probability at the point of attachment in the reinsurance contract, provides an answer to the question: "What is the likelihood that the investors will lose any money?"

    (ii) The depletion loss, reflected by the exceedance probability at the point of exhaustion in the reinsurance contract, provides an answer to the question: "What is the likelihood that the investors will lose everything?"

    (iii) The expected loss, reflected by the product of frequency and severity along the exceedance curve,

provides an answer to the question: "How much is an investor expected to lose on average?"

An illustration of the use of modeling[28]. Assume for example that the originator of a securitization is faced with the loss exceedance curve described in Figure ___. Assume that he wishes to purchase reinsurance for a hurricane event for a single year, with a 20% co-insurance clause. Assume further that the originator is satisfied with a BB rating, that the one-year frequency loss has a 1% probability, the one-year depletion loss has a 0.30% probability, and the one-year expected loss has a probability of 0.60%. Then the reinsurance contract must provide coverage for 80% of $500 million of aggregate insured losses (subtract $1.0 billion from $1.5 billion along the Loss axis) from a single hurricane in one year. The 1% exceedance probability at the attachment point of $1 billion means coverage for a 1 in 100 year event. The 0.30% loss probability at depletion means that investors have 1 in 333 chance of losing all their investment and a 1 in 100 chance of losing some of their investment. The average aggregate expected loss for investors is $2.4 million (i.e., 0.006 x (0.8 x $500 million) = $2.4 million,).

[28] Taken from Laurenzano and Latza, ibid., pages 18-20.

The role of the rating agencies in the securitization process

78. While a number of different rating agencies rate ILSs, a rating from at least one of either Moody's or Standard & Poor's is critical. A second rating will still be necessary but a rating agency such as Duff & Phelps/Fitch IBCA can be a satisfactory alternative. CAT bonds are subjected to the same rigorous ratings methodology and stress testing as traditional fixed income securities. The rating process will include an extensive analysis of potential default and recovery rates. Most CAT bonds have been rated in the BB range, though some have been B, BBB, and higher.

79. The rating methodology and testing tend to focus on matters such as (1) the justification for the historical sampling period used and the sensitivity of results to using other assumptions; (2) the reliability of the historical data sets; (3) the sensitivity of results to varying event parameters. The rating firms will also consider (4) the terms and structure of the transaction; (5) the attachment points, the expected loss, and the confidence intervals around mean probabilities; (6) if an indemnity transaction, the underwriting guidelines and historical loss experience, claims handling practices, and reserving practices; (7) the bankruptcy remote status of the SPV; (8) the investors' priority over other creditors of the SPV; (9) the credit rating of the counterparty to the swap; and (10) the credit quality of the collateral.

80. Before reaching a final rating, the rating firm will also make a comparison of the security's risk characteristics with those of other rated bonds. In this respect, the attachment probability of a CAT bond is treated similarly to credit default probability of an ordinary bond and the expected loss of the CAT bond is similar to the assumptions regarding the recovery amounts of an ordinary bond.

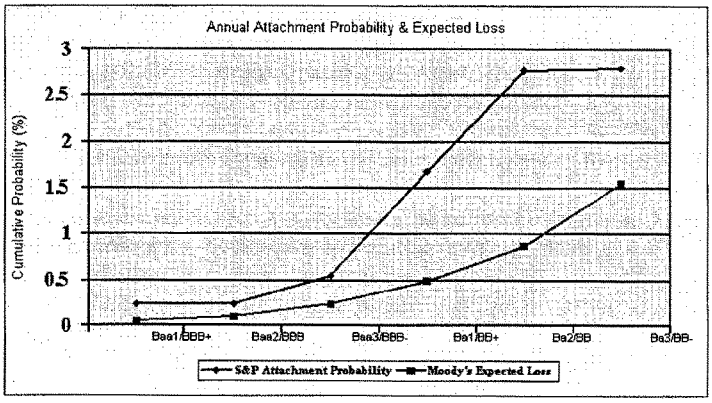
81. Rating agencies differ in their approach to rating CAT bonds:

> Standard & Poor's focus is on attachment probability. The firm puts a BBB+ ceiling on CAT bond ratings.
>
> Moody's focus is on the expected loss. While it does not impose a specific ceiling on CAT bond ratings, the firm does

perform extensive sensitivity analysis with its own proprietary models.

Fitch's focus combines both the attachment probability and the expected loss. The firm requires 95% and 99% confidence intervals for both parameters from the modeling firm.

Differences in Ratings Approaches for CAT Bonds: Moody's and S&P



S&P		Moody's	
Rating	1-Year Attachment Probability	Rating	1-Year E(L)
BBB+	0.23%	Baa1	0.05%
BBB	0.23%	Baa2	0.09%
BBB-	0.54%	Baa3	0.23%
BB+	1.67%	Ba1	0.48%
BB	2.77%	Ba2	0.86%
BB-	2.79%	Ba3	1.55%

82. From a rating standpoint, a securitization is most feasible when the attachment point is in the supercat or top layers of exposure. The supercat layer with expected losses of 0.25% or less will usually attract an investment grade rating. The top layer, ranging from an expected loss of greater than 0.25% to 3.00%, will qualify for non-investment grades ranging from BBB to B. Working layers with an expected loss

greater than 3.00% generally are too risky for capital markets investors. These markets more closely resemble equity markets but with few investors and practically no liquidity.

83. Second event securitizations are also feasible. These provide protection for future events after a single event, or series of events, exhausts the originator to a predetermined level. Typically, coverage is for events with a 1 in 200 or a 1 in 250 year probability. Once triggered, this structure provides protection attaching above the remaining and reinstated layers for any subsequent events. These bonds are attractive to investment grade investors since they cannot experience a loss until after a significant event has already occurred. Market capacity is about $800 million and an equivalent rate-on-line is about 1.5% to 2.0%.

The role of other participants in the securitization process

84. Compared to traditional reinsurance, a CAT bond securitization requires a significantly greater number of specialized professionals. A variety of different professionals are engaged largely to provide confidence and comfort to investors. The product of their efforts is a well-documented offering circular which details the risks and the operating mechanics of the securitization. Key service providers include[29]:

    Legal counsel: In the typical transaction, the underwriter of the securities and the originator will retain separate legal counsel. The originator's counsel however generally also represents the SPV.

    Indenture Trustee: The trustee performs his obligations on behalf of the SPV, including the payment of principal and interest, the registration of the securities, and the maintenance of the collateral accounts.

    Administrator: The administrator acts on behalf of the SPV and facilitates general banking services, record keeping, filings and correspondence with regulators, and correspondence with investors relating to the securities or the swap.

[29] See Lehman Brothers, ibid.

Verification Agent: The agent verifies the trigger and calculates the resulting principal reductions on the securities.

Loss reserve specialist: the specialist performs an independent actuarial analysis whenever an index or an indemnity trigger is part of the transaction. He verifies loss reserves over the term of the securitization and provides a commutation calculation at the end of the extension period.

Fiscal Agent: The agent is responsible for the preference share tranche, including the book-entry system, the payment of dividends, and the redemption of the shares.

85. An illustration of transaction costs related to the various parties involved in a transaction follows[30]. The illustration is typical of a $100 million securitization of CAT risks:

Securitization expenses	**Upfront costs**	**Ongoing costs**
Modeling costs	$300,000	
SPV administrator	$ 20,000	$ 30,000
Claims review	$ 50,000	
Loss reserve specialist	$ 20,000	
Rating agencies	$150,000	
Swap costs		$ 50,000
Legal counsel (u/w)	$400,000	
Legal counsel (f/a)	$ 5,000	
Fiscal agent	$ 10,000	$ 20,000
Indenture trustee	$ 40,000	$ 25,000
Legal counsel (i/t)	$ 15,000	
Legal counsel (tax)	$ 25,000	
Fees	$ 50,000	
Miscellaneous	$ 50,000	
Total	$1.1 million approx.	$150k approx.

Capital markets distribution of CAT bonds

[30] See Lehman Brothers, ibid.

86. The investor base for CAT bonds continues to expand. This is particularly true for money managers, who are thought to be the most stable class of investors. The following classes of investors are frequent participants in these transactions:

Money managers: These are the biggest players and include mutual and pension funds. They tend to be "value-added" investors. Liquidity is important to them, especially when participating in multi-year deals. Some are motivated purely by the spread, while others look for the portfolio effect.

Hedge funds: Financing is a major consideration for these investors. They were larger players prior to the 1998 crisis precipitated by the implosion of Long Term Capital Management but can still be relied on for at least $20 million per deal. Liquidity is the prime consideration.

International banks: As a group, they generally invest $25 to $40 million per deal. They are motivated purely by the floating rate spread. Historically, they favor one-year deals but have recently also participated in multi-year transactions.

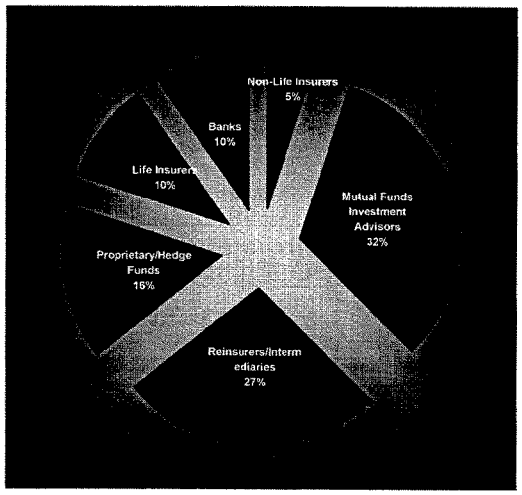
Dedicated CAT money: This represents a fast-growing category of participants. Generally, these investors prefer single peril securities. They are also good candidates for common and preferred equity tranches.

Life insurers: They are motivated purely by the spread and generally prefer multi-peril deals. Unlike traders, they buy and hold long-term and look for a "liquidity premium". Because their investment portfolio is subject to regulatory oversight, the identity and quality of the rating is critical.

Reinsurers: CAT bonds offer lower rated reinsurers the ability to participate in risk diversifications where they were otherwise previously excluded.

87. The distribution of investors for catastrophe securitizations underwritten by Goldman Sachs, for instance, is as follows[31]:

The Distribution of Investors in ILSs.



88. Recent problems in the credit markets have also worked in favor of a broader range of distribution opportunities, particularly since CAT instruments are considered to be uncorrelated to other market risks. Other reasons include the following:

Outstanding historical performance: The performance of CAT has matched the expectations and, to date, investors have not experienced any losses. Most offerings have been for risks with a 1% probability of loss or less.

Low volatility of spreads: Risk spreads relative to other assets have remained stable.

More issuance of notes with longer maturities: Early ILSs, like Residential Re, were one-year notes. More recent issues have 3 to 5

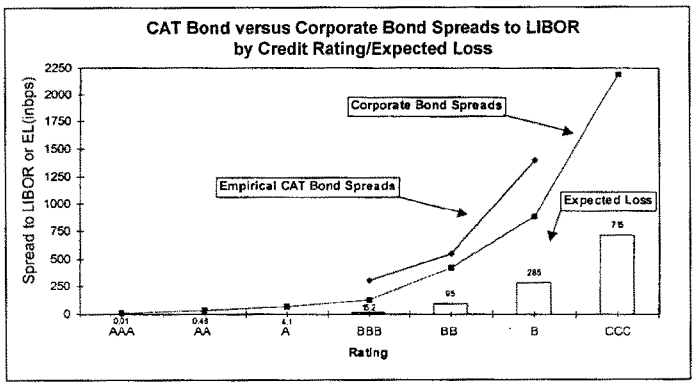
[31] See Goldman Sachs, Presentation to the California Earthquake Authority, Property Catastrophe Securitization, January 2002.

year maturities and there is talk of 7 to 10 year deals. Hence, originators can expect expense savings and investors can achieve lock-ins of attractive spreads for longer periods of time.

More securitizations allow for greater diversification: Investors can now assemble a diverse portfolio of uncorrelated catastrophe risks without a disproportionate exposure to a single risk.

Attractive returns relative to similarly rated corporate securities: CAT bonds have traded at significantly wider spreads than corporate bonds.

CAT Bond Spreads vs. Corporate Bond Spreads



89. Liquidity is also an important consideration for investors. Both the supply and the demand for investment grade securities are significantly larger than for below investment securities. Only a limited number of investors are permitted to invest in below investment grade securities. Hence, investment grade bonds have a broader market and more favorable rates, but are generally only available at the supercat and top layers or as second event coverage.

90. The current market capacity constraints for CAT bonds are about $400 million for non-investment grade bonds (0.5% to 1.5% expected loss range) with terms up to about 5 years. Their equivalent rate-on-line (ratio of net cost to coverage limit) is in the 4.0% to 6.0% range in the current market. For investment grade securities (where the expected loss

is less than 0.40%), capacity is about $600 million with terms up to 5 years and with an equivalent rate-on-line of 2.0% to 4.0% depending on the investment grade. The largest catastrophe risk transaction in the capital markets was the June 1998 Residential Reinsurance II transaction at $450 million.

The pricing of insurance-linked securities

91. The offering spread is generally determined after a pre-pricing period in which potential investors have an opportunity to evaluate preliminary offering documents. Road shows, investor meetings, and "price talk" stimulate an assessment of what the market clearing level price might be. Factors such as similar transactions in the past, modeling results, the existing "risk bucket", reinsurance rates, and theoretical price levels form the basis for the ultimate pricing of the securities. The typical timeline for taking a deal to market is about 12 weeks.

92. Risk may also be transferred to the capital markets by using other financial instruments such as options, futures, and swaps. Exchange-traded options are standardized and, in the past, included the Chicago Board of Trade catastrophe options based on the PCS catastrophe loss indices. Over-the-counter options can be tailored to meet the requirements of the parties.

Accounting issues pertaining to ILSs.

93. The accounting for various forms of ILSs is dependent upon the structure of the ILS, and may differ between securities that are indemnity triggered and those using non-indemnity triggers. In addition, the accounting for derivative type ILSs may also be affected by the degree to which they effectively hedge an insurer's exposures. The accounting is also, in general, affected by whether the coverage transfers underwriting risk.

94. At least three accounting systems have promulgated rules that would cover ILSs: US Generally Accepted Accounting Principles (US GAAP), US Statutory Accounting Principles (US SAP) and International Accounting Standards (IAS).

95. US GAAP, in FAS113, and US SAP, in SSAP62, require that transactions that receive reinsurance accounting treatment must transfer uncertainty in the form of both the net cash flows from premiums and claims ("underwriting risk") and the timing of those cash flows ("timing risk").

96. The disclosure requirements of International Accounting Standard (IAS) 32 "Financial Instruments: Disclosure and Presentation" apply in respect of financial reinsurances that principally transfer financial risk: specifically, there are disclosures regarding price risk, credit risk, liquidity risk and cash flow risk.

97. The International Accounting Standards Board has published a paper in the form of a draft statement of principles on insurance. This "DSOP" on insurance would define an insurance contract as one where there must be "a reasonable possibility that an event affecting the policyholder or other beneficiary will cause a significant change in the present value of the insurer's net cash flows arising from the contract."

98. It seems likely therefore that the basic requirements for uncertainty inherent in both US GAAP and US SAP will be followed by the IASB, although there may be some differences. As such, an indemnity based ILS transaction through an SPRV will likely receive underwriting treatment as ceded reinsurance under these three regimes.

99. In addition, a fully funded indemnity based ILS issued through a protected cell company will also receive full underwriting treatment under US SAP [SSAP74].

100. Under the IAS DSOP, "Catastrophe bonds" would be regarded as insurance contracts [para 1.38 (j)], and therefore a direct issuance of a catastrophe bond by an insurer would presumably be treated in an equivalent manner as ceded reinsurance. More controversially however, the investor in a catastrophe bond would probably be required to treat the catastrophe bond as an insurance contract: the DSOP states that "Any entity that issues an insurance contract (is) an insurer whether or not the issuer is regarded as an insurer for legal or supervisory purposes". The purchaser of a catastrophe bond is presumably the entity exposed to "identified risk of loss from events occurring … within a specified period". There is a concern that this current version of the

DSOP would have the effect of discouraging investment in catastrophe bonds, as many potential purchasers need to be able to account for catastrophe bonds as investments.

101. Within the US, both the NAIC's Special Purpose Reinsurance Vehicle Model Act and the Protected Cell Company Model Act address the status of the purchaser of an insurance securitization. Securitizations are not deemed to be insurance or reinsurance contracts and therefore those persons involved in an insurance securitization will not be deemed to be conducting potentially unlicensed insurance or reinsurance business solely by virtue of their involvement with an insurance securitization as investors. As such, investments in securitizations are treated as investments as opposed to assumed reinsurance.

102. Non-indemnity transactions, whether index based or modeled triggered, have less certain accounting treatment. Under US SAP, a recent interpretation has indicated that a modeled trigger transaction would not qualify for pure reinsurance treatment but would be accounted under the forthcoming rules for insurance securitizations.

103. Non-indemnity transactions will likely be treated as derivatives. US GAAP, US SAP and IAS have standards that cover derivatives.

104. Under US GAAP, FAS113 requires that all derivatives be valued in the balance sheet at fair value, while changes in derivative value are recognized in income unless the derivative qualifies as a hedge. While traditional life and property and casualty insurance contracts are excluded from the scope of the statement, an index linked insurance derivative would likely be included due to the existence of basis risk. Under FAS 133 Fair Value hedging applies to recognized assets and liabilities and unrecognized firm commitments, which would include a written insurance contract which the insurance derivative was intended to hedge. In these circumstances, the change in derivative fair value goes to current income and the change in fair value of hedged item goes to current income to the extent the derivative is effective, with the net effect that any ineffectiveness is recognized in earnings currently.

105. Under US SAP, SSAP86 the accounting for a highly effective hedge follows the accounting for the underlying asset or liability. Highly

effective has the same meaning as in FAS 80 – either an 80%/125% correlation rule or an R-squared of 0.80 or higher using regression.

106. There are, however, problems with how one measures effectiveness. In particular, with catastrophic coverages: what is the correlation or regression analysis value of a 0:0 event – that is, if the catastrophe doesn't occur, was the hedge effective or not? As a result, the American Academy of Actuaries, and the NAIC's Casualty Actuarial Task Force, do not believe that either the 80%:125% rule or a regression analysis rule work for derivatives designed to respond to low frequency high severity events. They recommend a two stage test based on Tail Value At Risk, and standard deviation measures. This issue has not been finalized as yet, as the NAIC's Insurance Securitization Working Group has adopted the 80%/125% rule and hence the difference will need to be worked out in the final formulation of US Statutory Accounting Principles for securitization transactions. One possibility may be to differentiate the hedge effectiveness tests for high severity low frequency events from the rest.

107. The NAIC's Insurance Securitization working group has proposed accounting treatments for index linked covers: if effective, new detail lines will be added to the income statement "Premium Ceded – Derivative" and "Losses Incurred – Derivative", and an "Insurance Derivative recoverable" line will be added to the balance sheet. The derivative will therefore receive underwriting treatment. However, if the hedge is ineffective, changes in fair value would be accounted as unrealized gains and losses through surplus.

108. The working group also proposes asymmetrical treatment of over and under recoveries that arise as a result of basis risk. Under recoveries would effectively remain in underwriting, but over recoveries would be accounted for in investment income. However, the actuarial profession disagrees with this approach and believes that over recoveries should be accounted for in underwriting. No final decision has yet been made by the NAIC on this issue.

109. The NAIC has issued a Statement of Statutory Accounting Principles relating to indemnity covers in Protected Cells [SSAP 74]: The cost of purchasing coverage from a Protected Cell (the equivalent of a reinsurance premium in a normal insurance transaction) is deducted from written and earned premium. Accordingly, the coverage receives

full underwriting accounting treatment in the accounts of the ceding insurer. A purchase of a fully funded indemnity triggered security from a protected cell by an insurer is accounted for as an investment under US SAP. The income does not increase premiums written and earned. As such, there is an asymmetry between cedant and assuming entity. This asymmetry is deliberate, in that the intention is not to force the purchaser of an ILS to account for it as an insurance transaction.

CATASTROPHE RISK SWAPS

110. A catastrophe risk swap entails an exchange of exposures with a counterparty. The objective of swapping is to either reduce the aggregate of a particular kind of CAT risk within a portfolio of insured risks or to diversify by adding CAT risks. Thus, a typical counterparty would have non-correlating exposures available for swapping.

111. A typical party interested in a swap would be one with excessive exposures to a single kind of CAT risk, one that might have excess capital or one wishing to include foreign CAT risks in its portfolio of risks.

112. A number of swap deals have been transacted: Tokio Marine exchange earthquake exposures with State Farm hurricane exposures in a $200 million transaction, and Renaissance Re has done two $50 million swaps with Japanese counterparties. In addition, Mitsui and Swiss Re entered into a $33.8 million agreement to exchange premium for a traditional catastrophe cover via an ISDA ("International Swap and Derivatives Association, Inc.") format. There are also some pending swaps of catastrophic life insurance exposures.

An illustration of a CAT swap: The Tokio Marine deal. Tokio Marine is the largest non-life insurer in Japan, and hence has huge Japanese earthquake and typhoon exposures. In order to diversify these risks, the firm engaged in a CAT swap with Swiss Re through Tokio Millenium Re. The swap is an aggregate of three separate $150 million exchanges of catastrophe risks. Japanese earthquake risk is swapped against California earthquake risk; Japanese typhoon risk is swapped against Florida hurricane risk; and Japanese typhoon risk is also swapped

against French windstorm risk. Each swap has different trigger points based on indemnity levels, reference portfolios, and industry indices. The entire transaction of $450 million in CAT risks is renewable annually.

113. A swap can be performed in two different ways:

(i) Trade the risk on a pure technical basis by exchanging layers which have equivalent attachment points and expected loss probabilities; or

(ii) Trade the risk on a fair market value basis by exchanging layers of equivalent market clearing rates on line. For example, a 2% risk in the United States may be more expensive in the market place than a 2% risk in Japan or Europe, and therefore the market rate rather than the frequency of loss is used to trade the risks.

114. There are two types of CAT risk swap structures:

(i) Back-to-back reinsurance contracts; and
(ii) ISDA swaps.

115. Under a back-to-back reinsurance structure, each company simply issues mirror reinsurance contracts to the other and offsets a notional (nominal) premium. Typically, the parties exchange a pre-defined risk with little or no initial exchange of premium. Premium payments are made only if the risk exposures do not match. The contract can be set up on an annual or multiple year basis.

116. ISDA swaps have potential fiscal and accounting problems when foreign companies are involved. However, details at this juncture are unclear. It is expected that any development will be in the future.

EXCHANGE-TRADED DERIVATIVES

117. Insurers that want protection against catastrophic losses can buy exchange-traded catastrophe options and futures. A derivative is an instrument whose value is derived from another financial instrument or

product. The most common derivatives are in the form of options, futures, or swaps. Options impose no obligation whereas futures impose an obligation.

118. An exchange-traded CAT option is a standardized contract based on a specific catastrophe index. The index reflects the catastrophe experience of a large set of insurers or the entire property and casualty insurance industry. The contracts entitle the buyer of the option to a cash payment from the seller if a catastrophe causes the index used to rise above a certain strike price specified in the option.

119. In the past, insurers and investors could trade options based on a catastrophe index compiled by PCS on the Chicago Board of Trade (CBOT) or on a Guy Carpenter Catastrophe index on the Bermuda Commodities exchange (BCOE). Both of these markets were, however, shut down due largely to lack of interest. The use of organized exchanges and standardized, index-based contracts would make it easier for investors and insurers to liquidate positions. Moreover, the use of clearinghouses by exchanges largely does away with counterparty risk.

120.

THIS SECTION CAN BE EXPANDED CONSIDERABLY – HOW USEFUL IS THAT GIVEN THAT THERE ARE NEXT TO NO TRADES IN THSE DERIVATIVES?

WEATHER DERIVATIVES

121. It is estimated that weather conditions impact 80% of worldwide business activity. Businesses such as soft drink makers, breweries, ice cream manufacturers, utilities, construction and clothing manufacturers are weather-dependent. Weather derivatives are financial instruments designed to assist in managing weather-related risks. These are comparatively new risk management tools, the first transaction having taken place in 1997. Since then, the market has expanded rapidly into a flourishing over the counter (OTC) trade.

122. There are a number of drivers behind the growth of the weather derivative market. Primary among these is the convergence of capital markets with insurance markets. In the late nineties, the insurance

industry faced a cyclical downturn in traditional underwriting premiums, and hence had excess risk capital available for hedging weather risk.

123. At the same time, 1997 was the year of heavy publicity regarding climatic changes related to EL Niño, and many American and foreign companies had to consider the possibility of significant earnings declines due to an unusually mild winter forecast. The ability to hedge weather conditions via weather derivatives hence became an attractive option. The deregulation of the energy market in Europe and the United States has provided further incentives for growth in the weather derivatives market. Moreover, these types of financial instruments, much like ILSs, are thought to be uncorrelated to other market risks. Hence, an investor can benefit from their overall effect on portfolio risk.

124. Any business with an exposure to the weather can use these derivatives to protect its revenues or its earnings against adverse weather conditions. Weather derivatives are particularly well suited to hedge against volume rather than price risks. For the latter type of risk, the more normal options and futures markets provide more appropriate instruments.

125. The derivatives are based on different underlying weather indices. Some commonly used indices are heating and cooling degree-days, rainfall, snowfall and wind speed.

126. A company has a number of alternatives in structuring a weather deal. The first alternative is to buy cooling degree day options (CDD) for the summer season, or a heating degree day options (HDD) for the winter season. CDD options protect against excessively cool summers while HDD options protect against excessively warm winters. Both HDD and CDD calls and puts are available.

(i) A Cooling Degree Day (CDD) measures the warmth of the daily temperature compared to a standard of 18 °C. The degree days specification is as follows:

Daily CDD = Max (0; daily average temperature - 18 °C)

(ii) A Heating Degree Day (HDD) measures the coldness of the daily temperature compared to a standard of 18 °C. Its degree days specification is as follows:

Daily HDD = Max (0; 18 °C - daily average temperature).

127. The weather derivatives market is liquid and there is an active secondary market. Reinsurance companies, in particular, have been active participants.

128. One participant in this market is Scandic Energy of Sweden. An example of a specification for a Scandic HDD call option contract follows:

Parameter	Option
Weather station	Stockholm Arlanda
Index	HDD
Type	Call
Period	January 2002
Strike	500 HDDs
Nominal	1 SEK/HDD
Max payout	200 SEK

The price of this particular call option on HDD can be computed as follows:

Payout = min (max (Total (HDD) - Strike; 0); Max payout)

Assume now that Total (HDD) = 600 SEK. Then the payout for this particular the specification of HDD option is as follows:

Payout = min (max (600 - 500; 0); 200)
Payout = min (100; 200)
Payout = 100 SEK
In this case, the company buying this option will be paid if the month of January in Stockholm is severe.

129. Weather derivatives differ from weather-related insurance contracts. The insured under an insurance contract must prove financial loss due to weather in order to be compensated. Payouts from weather derivatives however are based solely on the actual weather outcome, regardless of specific impact of such weather on the holder of the derivative.

130. Insurance contracts are usually designed to protect the holder from extreme weather events such as earthquakes and typhoons, and they do not work well with the uncertainties of more normal weather. Weather derivatives, on the other hand, can be constructed for any eventuality in weather conditions.

131. There is further advantage to weather derivatives. Those entities that benefit from a cold winter can transact with parties that benefit from a warm winter. Both parties can hence hedge their risks through a common transaction. An insurance contract, on the other hand, is a zero-sum game: one party gains and the other party loses.

REGULATORY ISSUES

132. One of the factors critical to the successful development of ILS is an appropriate regulatory and legal structure. The group has identified a number of issues in that regard:

How does the regulator exercise jurisdiction?

How can separateness between the SPV and the originator best be achieved?

Who will be permitted to issue or invest in ILS?

What controls need to be in place to monitor exposure?

What investment restrictions must be in place for an SPV?

What constraints must be put in place for insurers who invest in ILS?

What impact does an insurance-linked securitization have on capital?

What financial reporting requirements need to be put in place for originators and investors?

How should the investment be recorded?

What impact do tax rules have on ILS?
How can regulatory arbitrage be avoided?

133. To be completed.

October 8, 2002

Testimony before
The House Financial Services Committee
Subcommittee on Oversight and Investigations

U.S. House of Representatives

Dan Ozizmir
Swiss Re Financial Products Corp.

The Risk-Linked Securities Market

I would like to thank Chairwoman Kelly and Chairman Oxley for holding this hearing on the risk-linked securities market, an important and growing segment of the fixed-income and reinsurance markets. My name is Dan Ozizmir. I am a Senior Managing Director and Head of Trading with Swiss Re Financial Products, a subsidiary of Swiss Re, the largest reinsurer in North America and the second largest in the world. Swiss Re is also a member of the Reinsurance Association of America.

Swiss Re has been a leader in the risk-linked securities market, creating Swiss Re Capital Markets Corporation to develop the market and, in 1997, sponsoring one of the first risk-linked securities transactions, SR Earthquake Ltd.

Swiss Re has an interest in this market from two primary perspectives:

- We structure and underwrite new risk-linked securities issues, and
- We access the risk-linked securities market as an alternative source of capital.

My comments will focus on the current state and possible future direction of the risk-linked securities market from each of these perspectives by briefly answering:

- What motivates insurers and investors to participate in this market?
- What is the current and future direction of the risk-linked securities market?

Please note that we are a member of the Bond Market Association, which is also presenting today. We have had a chance to review their testimony and have tried to avoid duplication. Note that we generally agree with the Bond Market Association's statement; however, we do differ slightly on where to focus to further develop the market. For example, we believe investor education and product innovation will have the greatest impact on the success of this market.

Insurer Motivation

Consider a primary insurer that writes California homeowner's insurance and wants to provide insurance coverage against losses resulting from earthquakes. The insurer, not to mention regulators and policyholders, want to make sure it can pay its claims after a major earthquake. It can do so using several basic tools:

- Raising more equity capital by selling more company stock ;
- Transferring risks to the reinsurance markets (effectively, increasing its capital base); and
- Limiting risks via the underwriting and asset management process.

While not a perfect substitute for any of these approaches, transferring risks to the risk-linked securities market is a useful fixed cost multi-year complement to these other tools for certain peak catastrophe risks to the insurance industry, such as East Coast hurricanes and California earthquakes. It can help stabilize and even lower the cost of capital.

(As an aside, an insurer needs to hold significantly more equity to underwrite peak exposures, like a Florida hurricane or California earthquake than it does to underwrite non-peak exposures such as a single house fire or auto accident. In fact, equity is an extremely efficient source of capital for non-peak exposures as we can use the same dollar of capital to underwrite many dollars of coverage.)

The lower the cost of capital to insurers, the greater the availability of affordable insurance to policyholders. Making affordable insurance more available has important public policy implications. For example, as of the end of 2001, only 17% of California homeowners had earthquake insurance. Presumably, if earthquake coverage were less expensive, more consumers would obtain coverage. This in turn would reduce the potential burden on the government to provide emergency disaster relief following a major catastrophe. We note, however, that the limited availability of affordable coverage is not the only reason homeowners remain uninsured. In addition, policyholders may not like the terms of the policy (e.g., it has a high deductible) or they may have been conditioned that the government will provide disaster relief if they are uninsured.

The GAO report suggests that the potential for "basis risk", the difference between actual losses and losses covered in the risk-linked securities may present an obstacle to the development of the RLS market. Basis risk may exist because in most risk-linked securities transactions, recoveries depend on transparent triggers such as an industry index or a formula based on physical parameters from a hurricane or earthquake rather than on actual losses to the sponsoring entity. Note that various techniques exist to mitigate the impact of basis risk. For example, professional reinsurers such as Swiss Re can provide reinsurance coverage to mitigate the difference between actual losses and recovery under the risk-linked security. Further, to the extent the primary goal of a securitization is to provide capital relief, the retention of basis risk is less problematic. An insurer will receive significant capital relief for a transaction even where it retains basis risk.

Investor Motivation

Fixed income or bond investors buy risk-linked securities (known to them as "cat bonds") to diversify their investment portfolios. Adding risk-linked securities to a fixed income portfolio reduces the expected standard deviation for the portfolio, improving the portfolio's overall risk-return profile. In other words, the return stays the same but the portfolio risk goes down. This occurs because defaults on corporate bonds and natural disasters are not correlated. As an example, historically there has been essentially no relationship between an earthquake in Tokyo and the default of a corporate bond issued by a U.S. issuer.

Given these diversification benefits, an obvious question is why have many significant fund investors stayed on the sidelines. We believe fund investors have stayed on the sidelines for three primary reasons.

First, before investing in the sector, investors need to take time to understand risk-linked securities. In general they are only willing to do so, if they believe the market is large enough and offers sufficient benefits to make it worth doing.

Second, some investors are under the misimpression that risk-linked securities default in a way that makes it difficult to trade out of the bonds and suffer a partial loss. As an example, even as Hurricane Lili approached the Gulf Coast last week, we continued to trade the potentially affected bonds. And, by the way, it is also not true that an investor can always trade out of a deteriorating corporate bond prior to default.

Finally, some fund managers believe that investing risk-linked securities has a "career" risk for them. In contrast to a risk-linked securities default, if a manager loses money on a debt from a large corporate issuer, the manager can point to his or her many peers who suffered the same loss. There is safety in numbers.

Continued growth in the risk-linked securities market depends on increasing numbers of investment managers concluding that the diversification benefits outweigh these three concerns.

The Risk-Linked Securities Market: Current Status and Future Directions

At present, for our company, risk-linked securities represent a relatively small but strategically important source of capital. For us and for the industry as a whole, however, the other tools mentioned above -- equity, reinsurance, and controlling risk -- are much more important. At present, we believe that while some lower rated insurers and reinsurers might face capital strain from the equivalent of two natural catastrophes on the order of a Hurricane Andrews, the industry as a whole remains capable of meeting its obligations. Note that notwithstanding the estimated insured losses from the September 11th attacks, which are greater than Hurricane Andrew and the Northridge Earthquake combined, reinsurance remains readily available. (A major exception to this rule is terrorism coverage that is either not available or extremely

expensive.)

However, prices in many lines have increased, in large part due to the inadequate pricing environment preceding both 9/11 and the equity market decline of the last several years.
In our view, risk-linked securities are important in assuring the continued availability of affordable of insurance to policyholders in areas exposed to peak perils such as East Coast hurricanes and California earthquakes. Stated differently, in the absence of a viable risk-linked securities market, the number of uninsured policyholders in areas exposed to peak perils could increase, in some cases substantially. On the other hand, growth in the risk-linked securities market could cause coverage to expand.

As alluded to previously, our view is that the primary obstacle to growth in the risk-linked securities market is the limited participation of large money managers in the US and Europe as investors. It is important to note that generally, rating agencies, insurance regulators, and other government entities rather than being obstacles to growth have been in fact quite supportive of the development of this market.

On the whole, we expect the risk-linked securities market to continue to grow in several ways. First, we would anticipate the absolute amount of securities outstanding to continue to grow as new investors begin to participate and existing investors devote more capital to the sector. Second, we anticipate that over time innovation will gradually broaden the types of risks securitized. On this second point, I would note in particular that the risk-linked securities market is **not** a near term solution for providing capacity for terrorism risk, Today terrorism risk cannot be quantified. We believe that the only solution to this important and difficult problem is passage of a government backstop.

Conclusion

In conclusion, we believe that the risk-linked securities market plays a useful role in providing an additional source of capital to the reinsurance and insurance industry and hope that it will continue to do so over time. To the extent that it succeeds in doing so, it can help increase the availability of affordable insurance to policyholders exposed to peak perils and, therefore, reduce the amount of uninsured losses from natural catastrophes.

United States General Accounting Office

GAO

Report to the Chairman, Committee on Financial Services, House of Representatives

September 2002

CATASTROPHE INSURANCE RISKS

The Role of Risk-Linked Securities and Factors Affecting Their Use

GAO

Accountability * Integrity * Reliability

GAO-02-941

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Abbreviations

BMA	Bond Market Association
CBOT	Chicago Board of Trade
CEA	California Earthquake Authority
CFTC	Commodity Futures Trading Commission
EITF	Emerging Issues Task Force
FASB	Financial Accounting Standards Board
FASIT	Financial Asset Securitization Investment Trust
FHCF	Florida Hurricane Catastrophe Fund
FWUA	Florida Windstorm Underwriting Association
GAAP	Generally Accepted Accounting Principles
JUA	Florida Residential Joint Underwriting Association
LIBOR	London Interbank Offered Rate
NAIC	National Association of Insurance Commissioners
PCS	Property Claim Services
RAA	Reinsurance Association of America
REMIC	Real Estate Mortgage Investment Conduit
SEC	Securities and Exchange Commission
SPE	special purpose entity
SPRV	special purpose reinsurance vehicles

United States General Accounting Office
Washington, D.C. 20548

September 24, 2002

The Honorable Michael G. Oxley
Chairman, Committee on Financial Services
House of Representatives

Dear Mr. Chairman:

Because of population growth, resulting real estate development, and rising real estate values in hazard-prone areas, our nation is increasingly exposed to much higher property-casualty losses—both insured and uninsured—from natural catastrophes than in the past.[1] In the 1990s, a series of natural disasters, including Hurricane Andrew and the Northridge earthquake, (1) raised questions about the adequacy of the insurance industry's financial capacity to cover large catastrophes without limiting coverage or substantially raising premiums and (2) called attention to ways of raising additional sources of capital to help cover catastrophic risk. The nation's exposure to higher property-casualty losses increases pressure on federal, state, and local governments; businesses; and individuals to assume ever-larger liabilities for losses associated with natural catastrophes. Recognizing this greater exposure and responding to concerns about insurance market capacity, participants in the insurance industry and capital markets have developed new capital market instruments (hereafter called risk-linked securities)[2] as an alternative to traditional property-casualty reinsurance, or insurance for insurers.

Because of these concerns, you asked that we review the role of risk-linked securities in providing coverage for catastrophic risk and issues related to their expanded use. As agreed with your office, our objectives were to (1) describe catastrophe risk and how the insurance and capital markets provide for coverage against such risks; (2) describe how risk-linked securities, particularly catastrophe bonds, are structured; and (3) analyze how key regulatory, accounting, tax, and investor issues might affect the

[1]In this report, we use the term "catastrophe risk" to mean risk from natural catastrophes. For a discussion of insurance issues surrounding terrorism, see U.S. General Accounting Office, *Terrorism Insurance: Alternative Programs for Protecting Insurance Consumers*, GAO-02-175T (Washington, D.C.: Oct. 24, 2001).

[2]In this report, we refer to capital market instruments that cover insured catastrophe risks as "risk-linked securities," even though some of these instruments are not securities in the formal sense.

use of risk-linked securities. Our overall objective was to provide the Committee with information and perspectives to consider as the Committee and Congress move forward in this important and complex area.

Even though we did not have statutory audit or access to records authority with private-sector entities, we obtained extensive documentary and testimonial evidence from a large number of entities, including insurance and reinsurance companies, investment banks, institutional investors, rating agencies, firms that develop models to analyze catastrophe risks, regulators, and academic experts. We did not verify the accuracy of data provided by these entities. Some entities with whom we met voluntarily provided information they considered to be proprietary; therefore, we did not report details from such information. In other cases companies decided not to voluntarily provide proprietary information, and this limited our inquiry. For example, we did not obtain any reinsurance contracts representing either traditional reinsurance or reinsurance provided through the issuance of risk-linked securities.

Although we identified factors that industry and capital markets experts believe might cause the use of risk-linked securities to expand or contract, we make no prediction about the future use of these securities—either under current accounting, regulatory, and tax policies or under changed policies. Nor are we taking a position that increased use of risk-linked securities is beneficial or detrimental. Appendix I provides a detailed discussion of our scope and methodology.

We conducted our work between October 2001 and August 2002 in Washington, D.C.; Chicago, Ill.; New York, N.Y.; and various locations in California and Florida in accordance with generally accepted government auditing standards. Written comments on a draft of this report from the National Association of Insurance Commissioners (NAIC),[3] the Reinsurance Association of America (RAA),[4] and the Bond Market

[3]NAIC is a voluntary organization of the chief insurance regulatory officials of the 50 states, the District of Columbia, and four U.S. territories.

[4]RAA is a national trade association representing property and casualty organizations that specialize in reinsurance.

Association (BMA)[5] appear in appendixes V, VI, and VII, respectively. We also obtained technical comments from the Department of the Treasury (Treasury), the Securities and Exchange Commission (SEC), the Commodities Futures Trading Commission (CFTC), NAIC, RAA, and BMA that have been incorporated where appropriate.

Results in Brief

Catastrophe risk includes exposure to losses from natural disasters, such as hurricanes, earthquakes, and tornadoes, which are infrequent events that can cause substantial financial loss but are difficult to reliably predict. The characteristics of natural disasters prompt most insurers to limit the amount and type of catastrophe risk they hold. For example, property-casualty insurers that hold policies on their books that are overly concentrated in certain states, such as California and Florida, typically diversify and transfer risk through reinsurance.[6] Traditional reinsurance depends, in part, on well-developed contractual and business relationships between insurers and reinsurers. These relationships facilitate relatively low transaction costs and indemnity-based coverage, which compensates insurers for part or all of their losses from insured claims.[7] However, in the case of extremely large or multiple catastrophic events, insurers might not have purchased sufficient reinsurance, or traditional reinsurance providers might not have sufficient capital to meet their existing obligations. In any event, after a catastrophic loss, reinsurance capacity may be diminished and reinsurers might raise prices or limit availability of future catastrophic reinsurance coverage. In the 1990s, the combination of Hurricane Andrew and the Northridge earthquake along with reinsurance market conditions helped spur the development of capital market instruments and other alternatives to traditional reinsurance, such as state-run programs. Yet to date, risk-linked securities have represented a small share of the overall

[5]BMA represents securities firms and banks that underwrite, distribute, and trade fixed income securities, both domestically and internationally.

[6]Reinsurance is insurance for insurers that enables the insurer to transfer some of its risk to another insurer, called a reinsurer.

[7]Indemnity coverage specifies a simple relationship that is based on the insurer's actual incurred claims. For example, an insurer could contract with a reinsurer to cover half of all claims—up to $100 million in claims—from a hurricane over a specified time period in a specified geographic area. If a hurricane occurs where the insurer incurs $100 million or more in claims, the reinsurer would pay the insurer $50 million. In contrast, nonindemnity coverage specifies a specific event that triggers payment and payment formulas that are not directly related to the insurer's actual incurred claims.

property-casualty reinsurance market. According to the Swiss Reinsurance Company, in 2000, risk-linked securities represented less than 0.5 percent of the worldwide catastrophe insurance.

Risk-linked securities that can be used to cover risk from natural catastrophes employ many structures and include catastrophe bonds and catastrophe options. Currently, most risk-linked securities are catastrophe bonds. The cost of issuing catastrophe bonds includes the legal, accounting, and information costs necessary to issue securities and market them to investors who do not have contractual or business relationships with the insurance company receiving coverage. Although catastrophe bonds generally involve higher transaction costs than traditional reinsurance and most recently issued bonds have not been indemnity-based, they provide broader access to national and international capital markets. To provide catastrophe coverage via a catastrophe bond, an investment bank or insurance broker creates a special purpose reinsurance vehicle (SPRV) to issue bonds to the capital markets and to provide the sponsor organization—typically an insurance or reinsurance company—with reinsurance. The SPRVs are typically located offshore for tax, regulatory, and legal advantages. The SPRVs that issue catastrophe bonds receive payments in three forms (insurance premiums, interest payments, and principal payments); invest in Treasury securities and other highly rated securities; and pay investors in another form (interest). If the catastrophe occurs, principal that otherwise would be returned to the investors is used to fund the SPRV's payments to the insurer. The investor's reward for taking risk is a relatively high interest rate paid by the bonds. On the one hand, insurers prefer indemnity coverage, because the amount that the reinsurer pays will be directly linked to the insured claims actually incurred. However, that means the reinsurer has to pay more if the insurer underwrites (i.e., selects risks) poorly. On the other hand, investors cannot monitor the insurer's behavior as well as the traditional reinsurer can, thus investors have greater exposure to risk from poor underwriting. Therefore, catastrophe bond issuers have developed nonindemnity-based bonds. Recently issued catastrophe bonds have been structured to make payments to the sponsor upon the occurrence of specified catastrophic events that can be objectively verified, such as an earthquake reaching 7.2 or higher in moment magnitude.[8]

[8]Moment magnitude, a measure of earthquake intensity similar to the more commonly known Richter scale, has been used in catastrophe bonds securitizing earthquake risk.

We identified and analyzed four regulatory, accounting, tax, and investor issues that might affect the use of risk-linked securities. First, NAIC and insurance industry representatives are considering revisions in the regulatory accounting treatment of risk transfer obtained from nonindemnity-based coverage that would allow credit to the insurer similar to that now afforded traditional (indemnity-based) reinsurance. Such a revision, if adopted, has the potential to facilitate the use of risk-linked securities. Nevertheless, it is important yet difficult for U.S. insurance regulators to develop an effective measure to account for risk reduction for nonindemnity-based coverage so that insurance company filings with respect to risk evaluation and capital treatment both properly reflect the risk retained. Second, the Financial Accounting Standards Board (FASB) is proposing a new U.S. Generally Accepted Accounting Principles (GAAP) interpretation, which would increase independent capital investment requirements that allow the sponsor to treat SPRVs and similar entities as independent entities and report SPRV assets and liabilities separately. While the proposed guidance is intended to improve financial transparency in capital markets, it also could increase the cost of issuing catastrophe bonds and make them less attractive to sponsors. If the proposed rule were implemented, sponsors might turn to risk-linked securities such as catastrophe options that do not require an SPRV.[9]

Third, "pass-through" tax treatment—which eliminates taxation at the SPRV level—with favorable implementing requirements could facilitate expanded use of catastrophe bonds, but such legislative actions may also create pressure from other industries for similar tax treatment. It is not clear if and when regulatory, accounting, and tax issues will be resolved. Fourth, catastrophe bonds, most of which are noninvestment-grade instruments, have not been sold to a wide range of investors beyond institutional investors. Investment fund managers whose portfolios include catastrophe bonds told us that these bonds comprise 3 percent or less of their portfolios. On the one hand, the managers appreciate the diversification aspects of catastrophe bonds because the risks are generally uncorrelated with the credit risks of other parts of the bond portfolio. On the other hand, the risks are difficult to assess and the bonds have a limited track record. If the ability of investors to evaluate the risks and rewards of risk-linked securities improves, or if catastrophe reinsurance price and availability becomes problematic, the risk-linked securities market has the potential to expand.

[9]See appendix II for a discussion of catastrophe options.

This report does not contain any recommendations. We obtained comments on a draft of this report which are discussed on pages 30 to 32.

Background

Natural catastrophes have a low probability of occurrence, but when they do occur the consequences can be of high severity. Insurance companies face catastrophe risk associated with their provision of property-casualty insurance. Major reinsurers are insurance companies with global insurance and reinsurance operations. Insurers and reinsurers are subject to "moral hazard," which is "the incentive created by insurance that induces those insured to undertake greater risk than if they were uninsured, because the negative consequences are passed through to the insurer." Therefore, reinsurers have incentives to limit the possibility that ceding insurers take actions that would create negative consequences for the reinsurer. Indemnity reinsurance contracts have the potential to increase a reinsurer's risk exposure to the extent that the reinsurer might be unaware of the underwriting and claims settlement practices of the ceding insurer.

Traditional reinsurance is generally indemnity-based and tailored to the needs of the ceding company because traditional reinsurance depends, in part, on well-developed contractual and business relationships between insurers and reinsurers. When reinsurance coverage is not indemnity-based, the ceding insurer is exposed to basis risk—the risk that there may be a difference between the payment received from the reinsurance coverage and the actual accrued claims of the ceding insurance company. Property-casualty reinsurance agreements are typically single-event, excess of loss contracts. A single-event contract means that the reinsurer's obligations are specific to an event, such as a hurricane in a contractually specified geographic area. Excess of loss means that the reinsurer makes payments that are based on a contractually specified share of claims in excess of a minimum amount, subject to a maximum claim payment.

The financial industry has developed instruments through which primary financial products, such as lending or insurance, can be funded in the capital markets. Lenders and insurers continue to provide the primary products to the customers, but these financial instruments allow the funding of the products to be "unbundled" from the lending and insurance business; instead, the funding comes from securities sold to capital market investors. This process, called securitization, can give insurers access to the large financial resources of the capital markets.[10] With respect to funding catastrophe risk in property-casualty insurance, the risk of investing is tied to the potential occurrence of a specified catastrophic event and to the quality of underwriting by insurers and reinsurers.

In evaluating risk, capital market investors face the issue of moral hazard because in the absence of well-developed contractual and business relationships with primary market insurers, capital market investors might be unable to monitor the primary insurance company's underwriting and claims settlement practices that can act to increase risk. Nonindemnity-based coverage is a means to limit moral hazard for the investor by tying payment to industry loss indexes, parametric measures, and models of claims payments rather than actual claims that could be affected by lax underwriting standards or lax settlement of claims by the ceding insurer. However, such coverage introduces basis risk for the sponsoring insurance company.[11]

Insurance companies are not regulated at the federal level but are to comply with the laws of the states in which they operate. The insurance regulators of the 50 states, the District of Columbia, and U.S. territories have created NAIC to coordinate regulation of multistate insurers. NAIC serves as a forum for the development of uniform policy, and its committees develop model laws and regulations governing the U.S. insurance industry. Although not required to do so, most states either adopt model laws or modify them to meet their specific needs and conditions.

[10]To illustrate the size of U.S. capital markets, we used Federal Reserve Board Flow of Funds data for the quarter ended March 31, 2002. Our calculation indicated that the size of the U.S. capital markets was about $31 trillion. We included outstanding levels of U.S. Treasury securities (excluding savings bonds), agency securities, municipal securities, corporate and foreign bonds, and corporate equities.

[11]Basis risk is the possibility that the value of a hedge will not move precisely with the value of the item being hedged. For catastrophe risk, basis risk is the risk that, for example, the value of a catastrophe option will not move precisely with the insurer's catastrophe loss experience.

NAIC also has established statutory accounting standards, which are intended for use by insurance departments, insurers, and auditors when state statutes or regulations are silent. If not in conflict with state statutes and regulation, or in cases when the state statutes are silent, statutory accounting standards promulgated by NAIC are intended to apply. In addition to statutory accounting standards, insurers use GAAP, which are promulgated by FASB and are designed to meet the varying needs of both insurance and noninsurance companies. Although NAIC's statutory accounting standards use the framework established by GAAP, GAAP stresses the measurement of earnings from period to period, while NAIC's standards stress the measurement of ability to pay claims in the future. NAIC has also developed the Risk-Based Capital for Insurers Model Act, adopted in some form in all states, which imposes automatic requirements on insurers to file plans of action when their capital falls below minimum standards.

Insurance and Reinsurance Markets Provide Catastrophe Risk Coverage and Capital Markets Add to Industry Capacity

Natural catastrophes are infrequent events that can cause severe financial losses. Traditional reinsurance helps insurance companies respond to severe losses by limiting their individual liability on specific risks and thereby increases individual insurers' capacity. However, insurance companies have been faced with higher reinsurance premiums for certain coverage following significant past natural catastrophes. Higher costs of reinsurance helped spur the development of risk-linked securities as an alternative to traditional reinsurance.

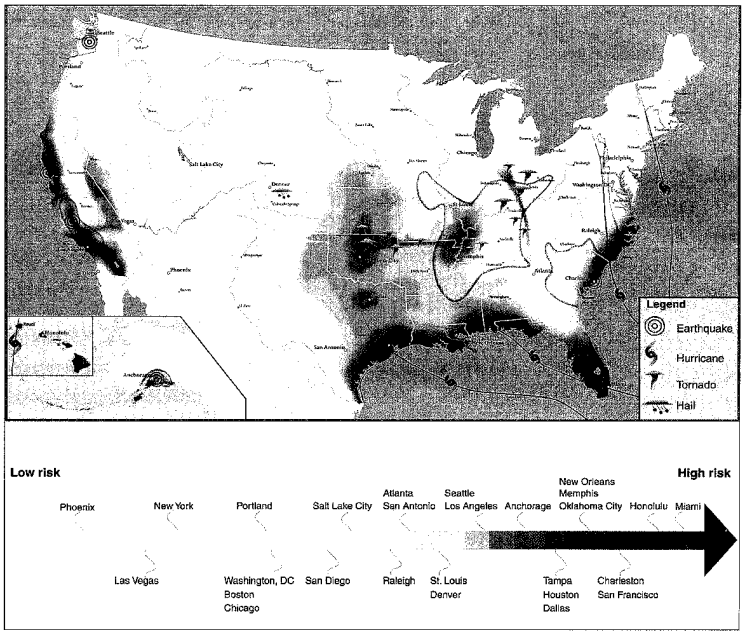
Natural Catastrophes Are Infrequent Events but Cause Severe Loss

Although natural catastrophes occur relatively infrequently compared with other insured events, they can affect large numbers of persons as well as their property. The U.S. property and casualty insurance[12] industry has paid, on average, $9.7 billion in catastrophe-related claims per year from 1989 through 2001, and the amount of claims paid can be highly variable. More than 68 million Americans now live in hurricane-vulnerable coastal areas. Eighty percent of Californians live near active faults. When natural disasters occur they cause damage and destruction, which may or may not

[12]Property-casualty insurance protects individuals and commercial businesses against the risks associated with the loss of property from fire and other hazards, or loss deriving from liability for personal injury and damage to the property of others. Property-casualty insurance includes damage to real estate, automobiles, glass, and other items.

be covered by insurance. The four most costly types of insured catastrophic perils in the United States are earthquakes, hurricanes, tornadoes, and hailstorms, although earthquakes and hurricanes pose the most significant catastrophe risk in insurance markets. Figure 1 shows the combined relative risk of these hazards across the United States.

Figure 1: Catastrophic Risk in the United States: Earthquake, Hurricane, Tornado, and Hail

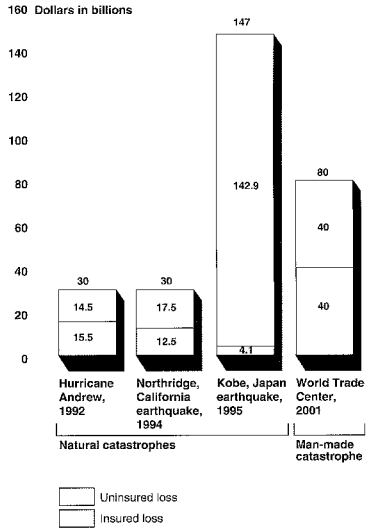


Note: Risk is depicted as average annual loss at a given location from a broad range of catastrophic events. Losses from fires following earthquakes are not included. Because flood-related losses are largely covered by the National Flood Insurance Program, flooding and coastal storm surges are not included.

Source: Risk Management Solutions.

In August 1992, Hurricane Andrew swept ashore in Florida south of Miami and at the time set a new record for insured losses. As shown in figure 2, estimated losses from Andrew were about $30 billion, of which $15.5 billion was insured. Payments of claims stemming from Andrew reduced the capital of affected insurance companies and sharply reduced their capacity to issue new policies. Some of Florida's largest homeowner insurance companies had to be rescued by their parent companies and others had to tap their surpluses to pay claims. Eleven property-casualty insurance companies went into bankruptcy. In January 1994, an earthquake occurred about 20 miles northwest of downtown Los Angeles in the Northridge area of the San Fernando Valley. Also shown in figure 2, estimated losses from the Northridge earthquake were about $30 billion, of which approximately $12.5 billion was insured. Earthquake insurance coverage availability declined precipitously after the Northridge earthquake. Losses from the Kobe, Japan, earthquake and the September 11, 2001, terrorist attack on the World Trade Center also are included in figure 2 to illustrate the global nature of the insurance capacity problem and to provide perspective on the size of losses.

Figure 2: Estimated Losses from Recent Large Catastrophes



Note: Dollar figures are estimates of insured, uninsured, and total loss.

Sources: Insurance Information Institute and other insurance industry sources.

Catastrophe Risk Is Usually Covered through Insurance, Reinsurance, and Retrocession

For many individuals and organizations, insurance is the most practical and effective way of handling a major risk such as a natural catastrophe. By obtaining insurance, individuals and organizations spread risk so that no single entity receives a financial burden beyond its ability to pay. But catastrophic loss presents special problems for insurers in that large numbers of those insured incur losses at the same time. Reinsurance helps insurance companies underwrite large risks, limit liability on specific risks, increase capacity, and share liability when claims overwhelm the primary insurer's resources. In reinsurance transactions, one or more insurers agree, for a premium, to indemnify another insurer against all or part of the loss that an insurer may sustain under its policies. Figure 3 illustrates traditional insurance, reinsurance, and retrocessional transactions.[13]

Figure 3: Traditional Insurance, Reinsurance, and Retrocessional Transactions

Source: GAO.

Reinsurance is a global business. According to RAA, almost half of all U.S. reinsurance premiums were paid to foreign reinsurance companies.[14]

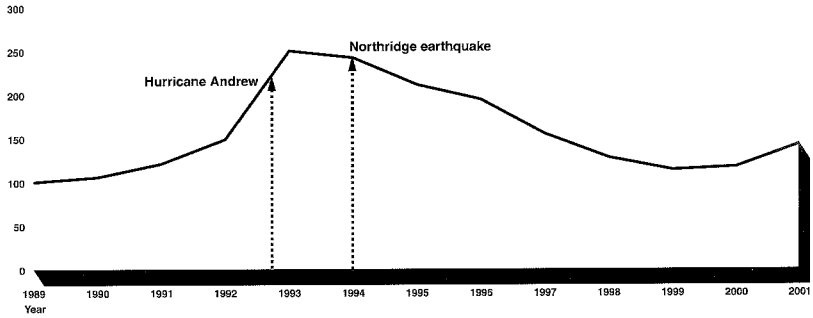
[13]Retrocessional coverage is reinsurance obtained by a reinsurance company when it transfers risk to another reinsurer.

[14]According to RAA, in 2000 U.S. insurance companies paid 53.4 percent of their premiums to U.S. reinsurance companies and alien reinsurers received 46.6 percent of reinsurance premiums. Premiums paid by U.S. insurance companies to offshore companies were most likely to go to reinsurance companies domiciled in Bermuda, the Cayman Islands, the United Kingdom, Germany, and Switzerland.

Insurers Are Subject to Reinsurance Price Swings

Catastrophe reinsurance has experienced cycles in prices, both nationally and in specific geographic areas. Figure 4 presents a national reinsurance price index since 1989, which shows that, overall, reinsurance prices increased both before and after Hurricane Andrew and decreased after the Northridge earthquake.[15]

Figure 4: U.S. Reinsurance Prices, 1989-2001



Note: This figure creates a price index set equal to 100 in 1989 normalized prices. We could not obtain information to assess the reliability of the price data.

Source: Guy Carpenter & Company, Inc., a subsidiary of Marsh & McLennan Companies.

[15]RAA commented that property catastrophe events have led to the creation of the Bermuda property reinsurance market that has played a major role in introducing new capacity into the marketplace after a major event.

The price trend presented in figure 4 does not reflect the situations specific to Florida and California, where insurers refused to continue writing catastrophe coverage. In 1993, the Florida state legislature responded by establishing the Florida Hurricane Catastrophe Fund to provide reinsurance for insurance companies operating in Florida.[16] Also, the Northridge earthquake raised serious questions about whether insurers could pay earthquake claims for any major earthquake. In 1994, insurers representing about 93 percent of the homeowners insurance market in California severely restricted or refused to write new homeowners policies. In 1996, the California state legislature responded by establishing the California Earthquake Authority (CEA) to sell earthquake insurance to homeowners and renters. Appendix III more fully discusses the mechanisms established by Florida and California to deal with the risks posed by such catastrophes.

In one comprehensive study analyzing the pricing of U.S. catastrophe reinsurance,[17] the authors concluded that a catastrophic event, such as a hurricane, reduced capital available to cover nonhurricane catastrophe reinsurance, thereby affecting reinsurance prices. This finding is consistent with the "bundled" nature of capital investment in traditional reinsurance (i.e., capital investors face both the risks associated with company management and the various perils covered by the insurance company). Therefore, the finding suggests that price and availability swings for catastrophe reinsurance covering one peril are affected by catastrophes involving all other perils.[18]

Given the cyclic nature of the reinsurance market, investors have incentives to look for alternative capital sources. Hurricane Andrew and the Northridge earthquake provided an impetus for insurance companies and others to find different ways of raising capital to help cover

[16]RAA commented that the private reinsurance market provides reinsurance to many primary companies in Florida.

[17]Froot, Kenneth A. and Paul G.J. O'Connell, "The Pricing of U.S. Catastrophe Reinsurance," in Kenneth A. Froot, ed., *The Financing of Catastrophe Risk*, National Bureau of Economic Research Project Report, (Chicago: Univ. of Chicago Press, 1999). We did not verify the reliability of the data used nor the authors' methodology. The authors relied on Guy Carpenter & Company pricing data for the years 1970 through 1994.

[18]BMA commented that reinsurance prices in the United States are influenced by events in other parts of the world.

catastrophic risk and helped spur the development of risk-linked securities and other alternatives to traditional reinsurance.

Catastrophe Risk Can Be Transferred to Capital Markets

Catastrophe risk securitization began in 1992 with the introduction of index-linked catastrophe loss futures and options contracts by the Chicago Board of Trade (CBOT). For more information on catastrophe options, see Appendix II. Other risk-linked securities, especially catastrophe bonds, were created and used in the mid-1990s in the aftermath of Hurricane Andrew and the Northridge earthquake. During this time, traditional reinsurance prices were relatively high compared with other time periods. While the most direct means for insurance companies to raise capital in the capital market is issuing company stock, an investor in an insurance company's stock is subject to the risks of the entire company. Therefore, an investor's decision to purchase stock will depend on an assessment of the insurance company's management, quality of operations, and overall risk exposures from all perils. In contrast, an investor in an indemnity-based, risk-linked security can face risk associated with the insurance company's underwriting standards but does not take on the risk of the overall insurance (or reinsurance) company's operations. The cost of issuing risk-linked securities, such as catastrophe bonds, includes the legal, accounting, and information costs that are necessary to issue securities and market them to investors who do not have contractual and/or business relationships with the insurance company receiving coverage. The market test for a securitized financial instrument, such as a catastrophe bond, depends, in part, on how well investors can evaluate the probability and severity of loss that may affect returns from the investment.

However, the willingness of capital market investors to purchase instruments that securitize catastrophe risk, such as catastrophe bonds, and therefore the yields they will require, depends on a number of factors, including the investors' capacity to evaluate risk and the degree to which the investment can facilitate diversification of overall investment portfolios.[19] Demand for risk-linked securities by insurance and reinsurance company sponsors will depend, in part, on the basis risk faced and the ability of sponsors to hedge[20] this basis risk.

Although issuance of risk-linked securities has been limited, many of the catastrophe bonds issued to date have provided reinsurance coverage for catastrophe risk with the lowest probability and highest financial severity. Insurance industry officials we interviewed told us that their use of risk-linked securities has lowered the cost of some catastrophe protection. In addition, one official told us that the presence of risk-linked securities as a potential funding option has helped lower the cost of obtaining catastrophe protection covering low-probability, high-severity catastrophes from traditional reinsurers.

According to the Swiss Reinsurance Company, in 2000, risk-linked securities represented less than 0.5 percent of worldwide catastrophe insurance and, according to estimates provided by Swiss Re and Goldman Sachs, between 1996 and August 2002, about $11 to $13 billion in risk-linked securities had been issued worldwide.[21] As of August 2002, over 70 risk-linked securitizations had been done, according to Goldman Sachs. Risk-linked securities have covered perils that include earthquakes,

[19]BMA commented that there are often compelling reasons for sponsors of risk-linked securities to use nonindemnity-based structures, including that they (1) more effectively shield the confidentiality of the sponsor's underwriting criteria, (2) may provide for more streamlined deal structuring and deal execution, and (3) may facilitate a more rapid payout in response to triggering events.

[20]A hedge is a strategy used to offset risk. For example, investors can hedge against inflation by purchasing assets that they believe will rise in value faster than inflation.

[21]Estimates of the number and dollar amount of risk-linked securities vary. These estimates are published by various industry sources, such as investment banks, insurance brokers, and rating agencies. The estimates differ because some of these data, such as those for privately placed catastrophe bonds, are not generally available and because the sources differ in how they define the instruments and transactions included as risk-linked securities. For example, an instrument called contingent equity may be included by some sources and not by other sources. BMA commented that about $6 to $7 billion in catastrophe-related, risk-linked securities were issued during this time period.

hurricanes, and windstorms in the United States, France, Germany, and Japan.

Risk-Linked Securities Have Complex Structures

Catastrophe options offered by CBOT beginning in 1995 were among the first attempts to market risk-linked securities. The contracts covered exposures on the basis of a number of broad regional indexes that exposed insurers to basis risk, and trading in CBOT catastrophe options ceased in 1999 due to lower-than-expected demand (see app. II).[22] Insurance companies and investment banks developed catastrophe bonds, and the bonds are offered through the SPRVs. Recent catastrophe bonds have been nonindemnity-based to limit moral hazard; therefore, they expose the sponsor to basis risk. The SPRVs are usually established offshore to take advantage of lower minimum required levels of capital, favorable tax treatment, and a generally reduced level of regulatory scrutiny.

Currently most risk-linked securities are catastrophe bonds. Most catastrophe bonds issued to date have been noninvestment-grade bonds.[23] Catastrophe bonds achieved recognition in the mid-1990s. They offered several advantages that catastrophe options did not, among them customizable offerings and multiyear pricing. Catastrophe bonds, to date, have been offered as private placements only to qualified institutional buyers.[24] A catastrophe bond offering is made through an SPRV that is sponsored by an entity that may be an insurance or reinsurance company.[25] The SPRV provides reinsurance to a sponsoring insurance or reinsurance company and is backed by securities issued to investors. The SPRVs are similar in purpose to the special purpose entities (SPE) that banks and

[22]For a description of other capital market instruments used to manage catastrophe risk, see U.S. General Accounting Office, *Insurers' Ability to Pay Catastrophe Claims*, GAO/GGD-00-57R (Washington, D.C.: Feb. 8, 2000).

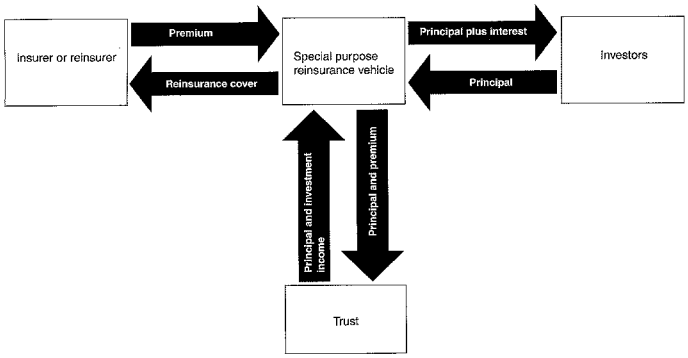
[23]Some catastrophe bonds contain tranches that have received investment grade ratings. BMA commented that a small but growing percentage of newly issued, risk-linked securities have been investment grade.

[24]A private placement is a sale of a security to an institutional investor that does not have to be registered with SEC. Here, an institutional investor is defined by Rule 144A. This SEC rule provides an exemption for limited secondary market trading of privately placed securities.

[25]A noninsurance business that has catastrophe exposure can also sponsor catastrophe bonds through a similar entity, a special purpose vehicle.

other entities have used for years to obtain funding for their loans.[26] These SPEs pay investors from principal and interest payments made by borrowers to the SPE. In contrast, the SPRVs that issue catastrophe bonds receive payments in three forms (premiums, principal, and interest); invest in securities; and pay investors in another form (interest). The SPRV returns the principal to the investor if the specified catastrophe does not occur. Figure 5 illustrates cash flows among the participants in a catastrophe bond.

Figure 5: Special Purpose Reinsurance Vehicle



Source: GAO.

As shown in figure 5, the sponsoring insurance company enters into a reinsurance contract and pays reinsurance premiums to the SPRV to cover

[26]According to Federal Reserve Board Flow of Funds data, at the end of 2001, over $1.8 trillion of loans outstanding were financed by asset-backed securities issued by such SPEs. The underlying loans were made to consumers, students, businesses, and homeowners exclusive of mortgage-backed securities guaranteed by government agencies, government corporations, and government-sponsored enterprises.

specified claims. The SPRV issues bonds or debt securities for purchase by investors. The catastrophe bond offering defines a catastrophe that would trigger a loss of investor principal and, if triggered, a formula to specify the compensation level from the investor to the SPRV. The SPRV is to hold the funds raised from the catastrophe bond offering in a trust in the form of Treasury securities and other highly rated assets.[27] To avoid consolidation on the sponsor's balance sheet, the trust also is to contain a minimum independent equity-capital investment of at least 3 percent of the SPRV's assets, per GAAP. According to a rating agency official, the 3 percent equity capital is usually obtained from capital markets in the form of preferred stock. Typically, investors earn a return of the London Interbank Offered Rate (LIBOR)[28] plus an agreed spread. The SPRV deposits the payment from the investor as well as the premium from the company into a trust account. The premium paid by the insurance or reinsurance company and the investment income on the trust account provide the funding for the interest payments to investors and the costs of running the SPRV.

Under the terms of nonindemnity-based catastrophe bonds, for the sponsoring insurance company to collect part or all of the investors' principal when the catastrophe occurs, an independent third party must confirm that the objective catastrophic conditions were met, such as an earthquake reaching 7.2 in moment magnitude as reported by the U.S. Geological Survey. Such nonindemnity bonds also allow the sponsor to continue to write new business without impacting the risk level of the bond and provide for faster reimbursement to the sponsor in the event of a catastrophe. The sponsor is exposed to basis risk because the claims on the investors' principal might not fully hedge the sponsor's actual catastrophe exposure. However, the sponsor has minimal credit risk—the risk of nonpayment in the event of the covered catastrophe—because the bond is fully collateralized. The SPRVs are usually established offshore—typically in Bermuda or the Cayman Islands—to take advantage of lower minimum

[27]The fixed-rate interest payments are swapped for floating-rate interest payments from a highly rated swap counterparty.

[28]LIBOR is the rate that the most creditworthy international banks charge each other for large loans. The SPRVs enter into interest rate swaps to exchange fixed-rate interest payments earned by funds invested in conservative instruments, such as U.S. government Treasury securities, for floating-rate interest payments, such as LIBOR.

required levels of capital, favorable tax treatment, and a generally reduced level of regulatory scrutiny.[29]

Bond rating agencies, such as Fitch, Moody's, and Standard & Poors, provide bond ratings that are based on their assessment of loss probabilities and financial severity. Some SPRVs have issued catastrophe bonds in tranches having more than one risk structure.[30] The rating agencies rate the bonds according to expected loss.[31] Catastrophe bonds issued to date have generally received noninvestment-grade ratings because investors face a higher risk of loss of their principal.[32] The rating agencies rely, in part, on the risk assessments of three major catastrophe-modeling firms—the same firms are used by traditional reinsurers to help them understand catastrophe risk. These modeling firms rely on large computing capacity; sophisticated mathematical modeling techniques; and very large databases containing information on past catastrophes, population densities, construction techniques, and other relevant information to assess loss probabilities and financial severities. Catastrophe bond-offering statements to investors include rating information and the results from the catastrophe modeling.

One example of a catastrophe bond is Redwood Capital I, Ltd., which is linked to California earthquakes. Lehman Re, a reinsurance company, is the sponsor of the bond. Due to the catastrophe bond structure, investors are exposed to potential loss of principal of about $160 million. The contract provides insurance for 12 months beginning January 1, 2002, covering specified earthquake losses to property in California. The interest rates promised on the principal-at-risk variable rate notes and preference shares are LIBOR+5.5 percent and LIBOR+7 percent. Investor losses are tied to

[29]BMA commented that the principal reason risk-linked securities are organized offshore is to avoid entity-level taxation of those vehicles.

[30]Tranches are classes of a security that have different characteristics of risks and returns. The issuer of a security can split the security's scheduled cash flows into separate classes known as tranches. Often, one tranche of an issue has greater exposure to risk than another tranche, and the different rates that investors can earn on these different tranches reflect their different risks.

[31]There are some differences among rating agencies in their methodology for assigning ratings for some of the catastrophe risk structures. BMA commented that bonds are rated according to frequency of loss as well as expected loss.

[32]Some catastrophe bonds contain tranches that have received investment-grade ratings and tranches with a noninvestment-grade rating.

the Property Claim Services (PCS) index, an indicator of insured property losses for catastrophes. The issuer provides reinsurance coverage for the earthquake peril in California to Lehman Re, the sponsor, for triggering events causing industry losses that range from $22.5 billion to $31.5 billion as estimated by PCS. Proceeds from the issuance of the securities are to be deposited into a collateral account and invested in securities that are guaranteed or insured by the U.S. government and in highly rated commercial paper and other securities. The securities have been offered only to qualified institutional buyers as defined by SEC Rule 144A. Moody's rated the bond a Ba2 (i.e., a noninvestment-grade bond rating) on the basis of the determination that it is comparable to a Ba2-rated conventional bond of similar duration. The rating took into account the risk analysis of a catastrophe-modeling firm.

Regulatory, Accounting, Tax, and Investor Issues Might Affect Use of Risk-Linked Securities

We identified and analyzed regulatory, accounting, tax, and investor issues that might affect the use of risk-linked securities. Our analysis included (1) current accounting treatment of risk-linked securities and proposed changes to accounting treatment, (2) potential changes in equity requirements for the SPRVs, (3) a preliminary tax proposal by insurance industry representatives to encourage domestic issuance of catastrophe bonds by creating "pass-through" tax treatment, and (4) reasons for limited investor participation in risk-linked securities.

Regulators Are Reconsidering Accounting Treatment of Risk-Linked Securities

Under certain conditions, NAIC's Statutory Accounting Principles allow an insurance company that obtains reinsurance to reflect the transfer of risk (effected by the purchase of reinsurance) on the financial statement it files with state regulators. These regulatory requirements are designed to ensure that a true transfer of risk has occurred and the reinsurance company will be able to pay any claims.[33] In receiving "credit" for reinsurance, an insurance company may count the payments owed it from the reinsurance company on claims it has paid as an asset or as a deduction from liability. In doing so, a company can increase earnings reported on its

[33]While such requirements have been promulgated, many insurance regulators hold the view that it is not within their oversight responsibility to police individual reinsurance business transactions between insurance companies, as such transactions are between sophisticated parties. See U.S. General Accounting Office, *Summary of Reinsurance Activities and Rating Actions Tied to Selected Insurers Involved in the Failed "Unicover" Venture*, GAO-01-977R (Washington, D.C.: Aug. 24, 2002).

financial statement and lower the amount of capital it needs to meet risk-based capital requirements established by regulators. The ability to record an asset or to take a deduction from gross liability for reinsurance is consequent upon the transfer of risk and can strongly affect an insurance company's financial condition.

Traditional reinsurance pays off on an indemnity trigger—that is, payment is based on the actual claims incurred by the insurance company. Some risk-linked securities have also provided payments from principal on an indemnity basis, and, under insurance accounting principles, these risk-linked securities have enabled the SPRVs to provide reinsurance that has received what is called "underwriting accounting treatment," thereby allowing the SPRV sponsor to gain credit for reinsurance. In other cases, recovery under a catastrophe bond may not be indemnity based and may rely on a financial model of the insured claims of the insurance company rather than on the actual claims of the company. In these cases, there is a risk that the modeled claims will not equal the insurance company's actual claims. There are also risks that the financial model will produce a recovery less or greater than the companies' incurred claims. Current accounting guidance requires that the contract must indemnify the company against loss or liability associated with insurance risk in order to qualify for reinsurance accounting.

However, NAIC is currently reconsidering the appropriate statutory accounting treatment of nonindemnity-based insurance, which would include risk-linked securities.[34] Both exchange-traded instruments and over-the-counter instruments can be used to hedge underwriting results (i.e., to offset risk). The triggering event on a risk-linked contract must be closely related to the insurance risks being hedged so that the payoff is expected to be consistent with the expected claims, even though some basis risk may still exist. This correlation is known as "hedge effectiveness." NAIC is currently considering how hedge effectiveness should be measured. Should NAIC determine a hedge-effectiveness measure, statutory insurance accounting standards could be changed so that a fair value of the contract could be calculated and recognized as an offset to insurance losses, hence allowing a credit to the insurer similar to

[34]A white paper on the subject written by members of NAIC's securitization subcommittee specifically addressed treatment of nonindemnity-based insurance derivatives, such as catastrophe options. However, NAIC is addressing this issue as it relates more broadly to risk-linked securities.

that granted for reinsurance. If nonindemnity-based, risk-linked securities are accepted by insurance regulators as an effective hedge of underwriting results, they could help make such contracts more appealing to insurance companies by providing treatment similar to that afforded traditional reinsurance. Nevertheless, it is important yet difficult for U.S. insurance regulators to develop an effective measure to account for risk reduction for nonindemnity-based coverage so that insurance company reporting on both risk evaluation and capital treatment properly reflects the risk retained. Appendix IV contains a discussion of credit for reinsurance accounting treatment and the balance sheet implications of such treatment.

Proposed Rule on Equity Requirements Could Affect Catastrophe Bonds

An SPE is created solely to carry out an activity or series of transactions directly related to a specific purpose. The use of an SPE (or more specifically an SPRV) in a catastrophe bond securitization transaction involves a number of complex financial accounting issues in the United States. Current FASB guidance generally provides that the sponsor of an SPE report all assets and liabilities of the SPE in its financial statements, unless all of the following criteria are met:

1. Independent third-party owner's(s') investment in the SPE is at least 3 percent of the SPE's total debt and equity or total assets.

2. The independent third-party owner(s) has a controlling financial interest in the SPE (generally meaning that the owner holds more than 50 percent of the voting interest of the SPE).

3. Independent third-party owners must possess the substantive risk and rewards of its investment in the SPE (generally meaning that the owner's investment and potential return are "at risk" and not guaranteed by another party).[35]

In response to issues arising from Enron's use of SPEs, FASB is currently considering a new approach to accounting for SPEs. The new FASB interpretation would require the primary beneficiary of an SPE to consolidate (list assets and liabilities of) the SPE in its financial statements, unless the SPE has "economic substance" sufficient not to be consolidated; that is, the SPE would have to have the ability to fund or finance its

[35]See Emerging Issues Task Force (EITF), Topic Number D-14, *Transactions Involving Special Purpose Entities* and other related EITF issues.

operations without assistance from or reliance on any other party involved in the SPE. In turn, the SPE would have that ability if it had independent third-party owners who have substantive voting equity investment at risk, exposure to variable returns, and the ability to make decisions and manage the SPE's activities. A presumption is set that substantive equity investment in an SPE should be at least 10 percent of the SPE's total assets throughout the life of the SPE. Therefore, according to information provided by FASB, many existing SPEs would probably be consolidated on the sponsors' financial statements under the new requirement. The potential revision for equity requirements is intended to improve transparency in capital markets. According to rating agency officials, the current 3 percent independent equity requirements in recent catastrophe bond transactions have been met by issuing preferred stock. Our work did not determine the extent to which the 3 percent independent equity requirement is currently being met by the insurance industry.

Bond market representatives told us that the proposed FASB equity requirements also have the potential to create a substantial hurdle to structuring catastrophe bond SPEs because few investors would be willing to purchase preferred shares because of the difficulties in understanding the risks. These representatives argue that risk-linked securitizations are different from other securitizations using SPEs because the insurer does not control the funds held by the SPE, and therefore, should not be subject to the new 10 percent equity investment requirement.

The proposed new FASB interpretation also considers who bears the largest potential risks of the SPE when determining whether to consolidate with the primary beneficiary. Should the primary beneficiary bear the largest dollar loss if the SPE should fail, then consolidation would be required with the primary beneficiary. According to one FASB representative, one issue that needs to be considered is whether the insurer or the investors should be responsible for reporting or consolidating the assets and liabilities of the SPE in financial statements depending on who bears the largest potential risks of the SPE. If an insurer must consolidate the assets and liabilities of the SPE onto its own balance sheet, the insurer will also lose part of the benefit of the reinsurance contract that it enters into with the SPE.

While the proposed guidance is intended to improve financial transparency in capital markets, it could also increase the cost of issuing catastrophe bonds and make them less attractive to sponsors. If the proposed rule were

implemented, sponsors might turn to risk-linked securities that do not require an SPE, such as catastrophe options.

Insurance Industry Representatives Have Proposed Pass-Through Tax Treatment of Risk-Linked Securities

NAIC is concerned that offshore SPRVs reduce economic efficiency and limit the oversight ability of insurance regulators. To further encourage the use of onshore SPRVs, NAIC's working group on securitization has interacted with a group of insurance industry representatives that is considering how to structure a legislative proposal to make onshore SPRVs tax-exempt entities. The SPRVs have been established in offshore tax haven jurisdictions, where the SPRV itself is not subject to any income or other tax; the SPRVs also usually operate in a manner intended to help ensure that they avoid U.S. taxation by conducting most activities outside of the United States.[36] Taxation of the U.S. holders of SPRV-issued securities depends upon whether the securities are characterized as debt or equity. This characterization in turn depends upon a number of factors, including the likelihood of loss of principal, the relative degree of subordination of the instrument in the SPRV's capital structure, and the accounting treatment of the instrument.

Although almost all SPRVs have been established offshore, there has been interest in facilitating the creation of onshore transactions because it is argued that onshore SPRVs would lessen transactional costs and afford regulators greater scrutiny of the SPRVs' activities. NAIC has already approved a model state insurance law that allows for the creation of an onshore SPRV. Under the model law, an onshore SPRV would be a corporation domiciled in and organized under state law for a limited purpose. Insurance regulators' scope of authority would be limited for the SPRVs, which would be required to be minimally capitalized, and the domiciliary state's laws on insolvency would apply to the SPRV.

However, it is likely that the onshore SPRV would be subject to federal income taxation, making the transaction more expensive. To further

[36]The status of the SPRV for U.S. federal income tax purposes is dependent upon a number of factual issues. If the SPRV were determined to be engaged in a U.S. trade or business, it could be subject to U.S. income tax at a rate of up to 35 percent, and to a 30 percent branch profits tax on its income, resulting in an effective U.S. federal tax rate of up to 54.5 percent. This tax rate would substantially reduce the return to investors. The SPRVs are generally characterized as passive foreign investment companies and treat the bonds that they issue as equity for federal income tax purposes. See Bertil Lundqvist, *Securitization of Risk of Loss from Future Events*, 829 PLI/Comm 875, 2001.

encourage the use of onshore SPRVs, a group of industry attendees at the NAIC's insurance securitization working group is considering a legislative proposal to make the onshore SPRVs tax-exempt. Currently, the industry representatives are considering using a structure that would receive tax treatment similar to the treatment received by an issuer of asset- or mortgage-backed securities. Issuers of asset-backed securities are generally not subject to tax on the income from underlying assets as they pass through the issuer to the investors in the securities. It would not be economical for an SPE to issue an asset-backed security if the SPE incurred material tax costs on the payments collected and paid over to the investors as taxable income. Securitizations address the problem of taxes in one of two ways: First, if an asset-backed security is considered debt for tax purposes, deductions are allowed for the interest expense, and the tax burden is shifted to the investors. Second, if the securities are not classified as debt, tax is avoided by treating the SPE as a pass-through entity with income allocated and taxed to its owners.[37]

The current proposal by the industry representatives would create a structure similar to a Real Estate Mortgage Investment Conduit (REMIC)[38] or a Financial Asset Securitization Investment Trust (FASIT). REMICs and FASITs are pools of real property mortgages or debt instruments that issue multiple classes, or tranches, of financial payments among investors. The REMIC and FASIT legislation adopt two approaches to avoiding an issuer tax: They treat the issuer as a pass-through entity and classify regular interest as debt for purposes of allowing an interest deduction to the issuer. The proposal would mimic REMICs and FASITs by providing pass-through treatment for the onshore SPRV and ensuring that the regular payments in the SPRV are classified as debt. To the extent that domestic SPRVs gained business at the expense of taxable entities, the federal government could experience tax revenue losses. The statutory and regulatory requirements used to implement any such legislation would also affect tax revenue.

[37]The principal types of mortgage or other asset-backed securities currently available are pass-through certificates, pay-through bonds, equity interests in domestic issuers of pay-through bonds, pass-through debt certificates, and Real Estate Mortgage Investment Conduits and Financial Asset Securitization Investment Trusts interests. Offshore corporations also are used to issue some asset-backed securities. See David Nirenberg, *Tax Developments in Securitization*, 829 PLI/Comm 411, 2001.

[38]Several concerns with the use of pass-through certificates and pay-through bonds arose, including the inability of a grantor trust to issue pass-through certificates that are divided into multiple classes with staggered maturities. To address some of these concerns, the Tax Reform Act of 1986 enacted the REMIC rules.

Expanded use of catastrophe bonds might occur with favorable implementing requirements, but such legislative actions may also create pressure from other industry sectors for similar tax treatment.

Also, some elements of the insurance industry believe that any consideration of changes to the tax treatment of domestic SPRVs would have to take into account the taxation of domestic reinsurance companies. Domestic reinsurance companies are taxed under the special rules of Subchapter L of the *Internal Revenue Code*. Under these rules, all insurance companies are taxed as corporations. Premiums earned by a domestic reinsurance company, after deducting premiums paid for retrocessional insurance coverage, are taxable. Investment income earned by the reinsurer is also taxable. A ceding commission paid by a reinsurer to an insurer to cover costs, including marketing and sale of the premium, is taxable to the ceding insurance company. However, many reinsurers are either incorporated offshore or are affiliated with companies created offshore to take advantage of reduced levels of taxation. Payments to an offshore reinsurer may be subject to an excise tax.[39] In addition, because of the potential for abuses, the Secretary of the Treasury has special statutory authority to reallocate deductions, assets, and income between unrelated parties when a reinsurance transaction has a significant tax avoidance effect.[40]

RAA officials expressed concerns about the impact of NAIC's model act creating an onshore SPRV. RAA objects to both the special regulatory treatment in the model act and the tax advantages proposed for the onshore SPRV. RAA argues that the NAIC model act creates a new class of reinsurer that will operate under regulatory and tax advantages not afforded to existing U.S. licensed and taxed reinsurance companies. RAA maintains that the SPRV will act as a reinsurer and yet not be subject to insurance regulation, thus endangering solvency regulation and creating an uneven playing field for reinsurers.

[39]26 U.S.C. §4371.

[40]26 U.S.C. §845.

Risk-Linked Securities Do Not Have Broad Investor Participation

Catastrophe bonds have not attracted a wide range of investors beyond institutional investors. Investor participation in risk-linked securities is limited in part because the risks of these securities are difficult to assess. Investment bank representatives and investment advisors we interviewed noted that catastrophe bonds have thus far been issued only to sophisticated institutional investors and a small number of large investment fund managers for inclusion in bond portfolios that include noninvestment-grade bonds. Most catastrophe bonds carry noninvestment-grade bond ratings from the rating agencies, but a low rating by itself has not been a barrier to active investor interest in other types of bonds, such as corporate bonds. The investment fund managers told us that catastrophe bonds comprise 3 percent or less of the portfolios in which they are included. On the one hand, the managers like the diversification aspects of catastrophe bonds because the risks are generally uncorrelated with the credit risks of other parts of the bond portfolio. On the other hand, managers stated that they have concerns about the limited liquidity and track record of catastrophe bonds as well as the lack of in-house expertise to understand the perils, indexes, and other features of the bonds.[41]

As requested, we explored the potential for individual investors to purchase shares in mutual funds that purchase catastrophe bonds for inclusion with other securities in a mixed asset fund. We analyzed the SEC rules governing catastrophe bond issuance and mutual fund composition and confirmed with SEC that these rules and regulations do not preclude mutual funds from purchasing catastrophe bonds. One of the investment advisors we interviewed told us that his firm included a small amount of catastrophe bonds in mutual funds sold to the public. However, a mutual fund industry association official told us that the mutual fund companies that the association surveyed—including three of the largest—have not included catastrophe bonds in funds available to individual investors because the companies lack the capacity to evaluate the risks. The mutual fund industry official also raised the issue of whether the risk associated with risk-linked securities would be appropriate or suitable for investments by a broad range of investors, including moderate-income investors.

[41]The September 9, 2002, comment letter from RAA notes that no catastrophe bond contracts have been triggered by catastrophic events.

Agency Comments and Our Evaluation

We received written comments on a draft of this report from NAIC, RAA, and BMA. We also obtained technical comments from Treasury, SEC, CFTC, NAIC, RAA, and BMA that have been incorporated where appropriate. NAIC commented that it supports developing alternative sources of reinsurance capacity, the securitizing of catastrophic risk within the United States, and subjecting SPRVs to U.S. insurance regulation. As stated in our report, a group of insurance industry representatives interacting with NAIC's working group on securitization is considering how to structure a legislative proposal to make the onshore SPRV a tax-exempt entity. Our report also indicates that such legislation also could result in tax revenue losses and other potential costs. NAIC stated that SPRVs, however, would be subject to onshore supervision by U.S. regulators, but it is not clear to us how risk-linked securities would actually be regulated once brought onshore.[42]

RAA commented that our report provides an excellent summary on the use of risk-linked securities in providing coverage for catastrophes. However, RAA took exception to (1) our characterization of reinsurance industry capacity and (2) our description of risk-linked securities as an alternative to reinsurance. RAA noted that in recent occurrences of major catastrophic events in the United States, insurers and reinsurers had sufficient capital to meet their obligations and added that most of the California and Florida market was underwritten by insurers that relied very little, if at all, on reinsurance capacity. First, we note that while the reinsurance industry has been able to meet its obligations from recent events with existing capacity, the industry's capacity must be considered along with issues related to (1) the price and availability of catastrophic reinsurance in high-risk areas and (2) its ability to handle multiple, sequential catastrophes. Some insurers who self-reinsure might do so partially because they believe that the price of reinsurance to cover their exposure to catastrophic events is not attractive. Second, RAA asked that we characterize risk-linked securities as a supplement to reinsurance rather than as an alternative because of the relatively small amount of reinsurance coverage currently provided through risk-linked securities. We agree, and our report states that risk-linked securities add to or supplement reinsurance capacity, but we also

[42]In one case, companies experienced an estimated $1 to $2 billion in losses in reinsuring the occupational accident portion of workers' compensation insurance policies. See GAO-01-977T.

note that sponsors of catastrophe bonds view these securities as alternatives to traditional reinsurance when they are more cost-effective.

BMA stated that our report was accurate and well-researched and commented on several policy issues raised in the report. Their letter raised several concerns with our discussion of tax treatment, accounting treatment, and investor interest in risk-linked securities. First, BMA disagreed with concerns cited in our report that pass-through tax treatment for risk-linked securities could result in (1) tax revenue losses and unfair tax and (2) regulatory and tax advantages that are not afforded to existing U.S.-licensed and taxed reinsurance companies. BMA commented that because a large percentage of entities that provide reinsurance coverage is based outside of the United States, including all reinsurance companies established since September 11, 2001, the tax impact would not be dramatic. In addition, BMA noted that any potential loss of U.S. tax revenue must be weighed against the policy benefits associated with creating additional private-sector capacity to absorb and distribute insurance risk. We agree that many reinsurance entities are not U.S.-based, but the potential tax revenue losses would depend on a number of factors, including business lost by taxable entities and the regulatory requirements used to implement such legislation. We also agree that many considerations must be weighed in the policy decision to grant special tax treatment for onshore SPRVs, including potential tax revenue losses and the extent to which an uneven playing field is created for domestic reinsurance companies.

Second, BMA commented that our description of FASB's SPE consolidation proposal was not based on the final exposure draft and that they interpret the proposal to allow SPRVs to apply only a variable interests approach and not satisfy a particular outside equity threshold. Our draft report discussion of the FASB proposal was based on the final exposure draft. While we did not evaluate BMA's interpretation of the FASB proposal, we included their position in our report. Finally, BMA commented that our discussion of reasons for the lack of broader investor participation in risk-linked securities was incomplete and somewhat inaccurate. They noted that several mutual funds have purchased risk-linked securities as part of their overall portfolios, that mutual fund managers are well-equipped to evaluate the risk associated with these securities, and that lack of broader investor participation may be due to limited issuance. We agree that some mutual funds have purchased risk-linked securities and that lack of broader participation may be attributed to some degree to limited issuance of risk-linked securities. However, information we obtained indicates that some of

the largest mutual fund companies did not include risk-linked securities in their mutual fund portfolios mainly because of their unusual and unfamiliar risk characteristics.

Unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies of this report to the Ranking Minority Member of the House Committee on Financial Services and the Chairmen and Ranking Minority Members of the Senate Committee on Banking, Housing and Urban Affairs; and the House Committee on Ways and Means. We also will make copies available to others upon request. In addition, this report will be available for no charge on GAO's Internet home page at http://www.gao.gov.

Please contact Bill Shear, Assistant Director, or me at (202) 512-8678 if you or your staff have any questions concerning this report. Key contributors to this work were Rachel DeMarcus, Lynda Downing, Patrick Dynes, Christine Kuduk, and Barbara Roesmann.

Sincerely yours,

Davi M. D'Agostino
Director, Financial Markets and
Community Investment

Appendix I

Scope and Methodology

You asked us to report on the potential for risk-linked securities to cover catastrophic risks arising from natural events. As agreed with your office, our objectives were to (1) describe catastrophe risk and how insurance and capital markets provide for insurance against such risks; (2) describe how risk-linked securities, particularly catastrophe bonds, are structured; and (3) analyze how key regulatory, accounting, tax, and investor issues might affect the use of risk-linked securities.

Even though we did not have audit or access-to-records authority with the private-sector entities, we obtained extensive documentary and testimonial evidence from a large number of entities, including insurance and reinsurance companies, investment banks, institutional investors, rating agencies, firms that develop models to analyze catastrophic risks, regulators, and academic experts. However, we did not verify the accuracy of data provided by these entities. Some entities we met with voluntarily provided information they considered to be proprietary, and therefore we did not report details from such information. In other cases, companies decided not to provide proprietary information, and this limited our inquiry. For example, we did not obtain any reinsurance contracts representing either traditional reinsurance or reinsurance provided through issuance of risk-linked securities.

To describe catastrophe risk and how insurance and capital markets provide for insurance against such risks, we examined a variety of documents, including books on insurance and reinsurance; academic articles and essays; and analyses done by the Insurance Information Institute, the Insurance Services Office, modeling firms, and the Congressional Budget Office. We also interviewed officials from insurance companies, reinsurance companies, the California Earthquake Authority (CEA), the Florida Hurricane Catastrophe Fund (FHCF), modeling firms, and university finance departments and schools.

To describe how risk-linked securities, particularly catastrophe bonds, are structured, we examined catastrophe bond-offering circulars, investment bank documents, reinsurance company analyses, rating agency reports, academic studies, futures exchange documents, and analyses prepared by the American Academy of Actuaries. We also met with officials of investment banks, insurance companies, reinsurance companies, rating agencies, modeling firms, a futures exchange, investment advisors, and the American Academy of Actuaries.

To analyze how key regulatory, accounting, tax, and investor issues might affect the use of risk-linked securities, we examined a variety of documents, including books on insurance accounting and taxation, the Financial Accounting Standards Board's (FASB) proposed consolidation principles for special-purpose entities, accounting firm publications, the National Association of Insurance Commissioners' (NAIC) Statutory Accounting Principles, and the proceedings of NAIC's Working Group on Securitization. We met with officials from many organizations, including NAIC's Working Group on Securitization, the Bond Market Association (BMA), the Reinsurance Association of America, the Investment Company Institute—a mutual fund company association, and FASB. We also met with officials from the Securities and Exchange Commission (SEC), the Commodity Futures Trading Commission (CFTC), and the Department of the Treasury (Treasury).

We faced a number of limitations in our work. We did not verify the accuracy of data provided by the various entities we contacted. While we obtained publicly available data on U.S. reinsurance prices, we could not obtain information to assess the reliability of the price data nor the methodology used to construct the reported price index. We obtained offering statements for some catastrophe bond offers. However, we could not determine whether the offering statements were representative of the universe of catastrophe bond offers, and we relied on summary information on the various offers provided to us by bond rating agencies. We also faced limitations in identifying the specific financing arrangements made to provide independent capital investments to special purpose reinsurance vehicles (SPRV) used to avoid consolidation with the sponsor's balance sheet. In addition, without access to reinsurance contracts, we could not determine the extent to which insurance and reinsurance companies received credit for reinsurance, including those companies that relied, in part, on risk-linked securities to transfer catastrophe risk.

Although we identified factors that industry and capital markets experts believe might cause the use of risk-linked securities to expand or contract, it was not within the scope of our work to forecast increased or reduced future use of these securities—either under current accounting, regulatory, and tax policies or under changed policies. It also was not within the scope of our work to take a position on whether the increased use of risk-linked securities is beneficial or detrimental.

We conducted our work between October 2001 and August 2002 in Washington, D.C.; Chicago, Ill.; New York, N.Y.; and various locations in

California and Florida, in accordance with generally accepted government auditing standards.

Catastrophe Options

Catastrophe options were offered by the Chicago Board of Trade (CBOT) in 1995. These options contracts were among the first attempts to market natural disaster-related securities. Catastrophe options offered the advantage of standardized contracts with low transaction costs traded over an exchange. Specifically, the purchaser of a catastrophe option paid the seller a premium, and the seller provided the purchaser with a cash payment if an index measuring insurance industry catastrophe losses exceeded a certain level. If the catastrophe loss index remained below a specified level for the prescribed time period, the option expired worthless, and the seller kept the premium. The option might have been purchased by an insurance company that wanted to hedge its catastrophe risk and might have been sold by firms that would do well in the event of a catastrophe—for example, homebuilders—or by investors looking for a chance to diversify outside of traditional securities markets.

Catastrophe option contracts were revised several times and covered exposures on national, regional, and state bases. On the one hand, because the payouts on the contracts were based on an index of insurance industry catastrophe losses,[43] the transactions did not expose the investor to moral hazard or adverse selection[44] risk. The indexes used were the Property Claim Services[45] (PCS) catastrophe loss indexes.[46] On the other hand, the contracts created basis risk for purchasers—the differences in the claim patterns between an individual insurer's portfolio and the industry index. The options were to have offered minimal credit risk because the CBOT clearinghouse guaranteed the transactions. However, low trading volumes on options also raised questions about liquidity risk. Trading in CBOT catastrophe options ceased in 1999 due to lower-than-expected demand; CBOT delisted catastrophe options in 2000.

[43]The payouts varied with industry catastrophe losses, limited to certain maximums.

[44]Adverse selection is the tendency of persons with a higher-than-average chance of loss to seek reinsurance at average rates, which, if not controlled by underwriting, results in higher-than-expected loss levels.

[45]PCS, a unit of the Insurance Services Office, provides estimates of insured losses related to catastrophes incurred by the insurance industry.

[46]The indexes track PCS's estimates of the insurance industry's aggregate direct property losses as a result of catastrophes.

California and Florida Approaches to Catastrophe Risk

The insurance markets in California and Florida illustrate the difficulties that the catastrophe insurance industry has faced nationally. Because California and Florida are markets with high catastrophe risk, these states have developed programs to increase insurer capacity in these markets. The Northridge earthquake raised serious questions about whether insurers could pay earthquake claims for any major earthquake. In 1994, insurers representing about 93 percent of the homeowners insurance market in California severely restricted or refused to write new homeowner policies because the insurers grew concerned that another earthquake would exhaust their resources. Florida experienced a similar insurance crisis after Hurricane Andrew in 1992. In response, the state created two organizations to provide primary insurance coverage and additional reinsurance capacity.

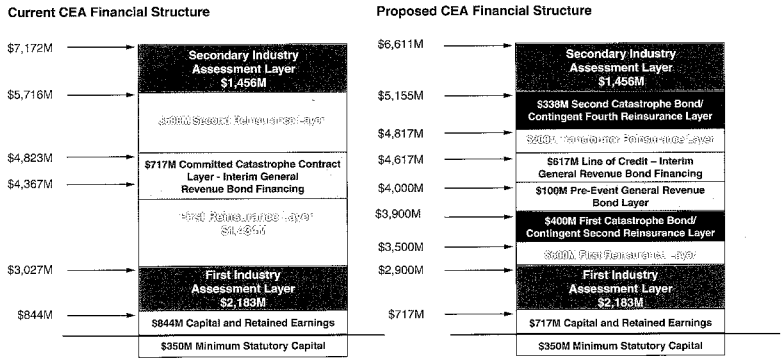
California Earthquake Authority Provides Insurance

In 1996, the California legislature established CEA as a privately funded and publicly managed entity to help residents protect themselves against earthquake loss. CEA sells earthquake insurance to homeowners, including condominium owners and renters. Insurers doing business in California must offer earthquake insurance in their homeowners insurance policies, whether a CEA policy or their own. The basic CEA policy carries a deductible of 15 percent on the home's insured value, provides up to $5,000 to replace contents and personal possessions, and up to $1,500 for emergency living expenses. In 2001, the average policy for a house cost $560, but costs were several times higher in areas with high seismic risk. While companies must offer earthquake insurance, there is no state requirement that consumers purchase earthquake insurance or that mortgage lenders require it. About 16 percent of California residences had earthquake insurance at the end of 2001, and CEA insured 65 percent of those with earthquake insurance.

As of January 2002, CEA had more than 814,000 policies and a claims paying capacity of more than $7 billion against an exposure from all policies of about $175 billion. Their claims paying capacity consisted of layers of capital, insurance company assessments, and reinsurance and a line of credit. Recent external and internal reviews—conducted by the California State Auditor, CEA staff, and others—of CEA's finances have focused on its claims paying capacity. The common concern of these reviews has been the heavy dependence on the reinsurance market—some 40 percent of CEA's $7.2 billion claims paying capacity. Reviewers recommend that some of CEA's claims paying capacity be converted to catastrophe bonds. Such a conversion would make CEA the largest

catastrophe bond issuer in the world. As shown in figure 6, CEA is currently exploring catastrophe bond placements on two layers for $400 million and $338 million. Recently the CEA's Governing Board decided not to support CEA issuance of catastrophe bonds because catastrophe bonds are done in offshore tax havens. A CEA official told us that the Governing Board would revisit the issue when catastrophe bonds can be done onshore.

Figure 6: Current and Proposed California Earthquake Authority Financial Structure



Source: California Earthquake Authority.

Florida Provides Residential Coverage for Windstorms and Supplements Insurance Capacity

Following Hurricane Andrew in 1992, there was a property insurance crisis, and the Florida state legislature created two organizations to provide coverage and additional capacity—the Florida Residential Joint Underwriting Association (JUA) and the FHCF. JUA provides residential coverage in specifically designated areas that are most vulnerable to windstorm damage. Qualified recipients are property owners who could not obtain coverage from private insurers after Hurricane Andrew. The JUA

had 68,000 policyholders and an $11 billion exposure as of January 2001. Rates charged by the JUA in each county must be at least as high as the highest rate charged by the 20 largest private insurance companies in Florida. The JUA's capacity to pay claims was $1.9 billion as of January 2001; claims would be paid by drawing down its surplus, private reinsurance, assessments of members, pre-event notes, a line of credit, and reimbursements from the state's catastrophe fund. In March 2002, the Florida legislature approved a plan to merge JUA with the Florida Windstorm Underwriting Association (FWUA), thereby forming an organization called the Citizen's Property Insurance Corporation.[47]

The FHCF was created as a source of reinsurance capacity to supplement what was available from private sources. The FHCF is run by Florida and was set up to encourage insurers to stay in the Florida marketplace in the aftermath of Hurricane Andrew, when reinsurance became more difficult to obtain. The FHCF reimburses insurers for a portion of their claims from future severe hurricanes. Unlike California, where catastrophe coverage is voluntary, Florida homeowners' policies must include hurricane coverage. The FHCF is the world's largest hurricane reinsurer, and Florida's two residential pools (JUA and FWUA) and private insurers depend on it. Participation by the state's insurers is mandatory, but insurers may choose different levels of coverage (45 percent, 75 percent, or 90 percent) above a high-retention or deductible level for the participating insurers. The fund is financed by (1) about 260 property insurers doing business in the state on the basis of their exposure to hurricane loss and (2) bonding secured by emergency assessments on other insurers. If the FHCF cash balance is not sufficient to reimburse covered losses, it can issue tax-exempt revenue bonds, which are financed by an emergency assessment of all property-casualty insurers excluding workers' compensation writers. Premiums paid relative to coverage purchased are significantly below those in the private-sector. The FHCF's capacity is currently $11 billion against an exposure of over $1 trillion. The $11 billion capacity comprises approximately $4.9 billion in cash and $6.1 billion in borrowing capacity. FHCF is also exempt from federal income tax. Although no major claims have occurred since Hurricane Andrew, the FHCF is designed to handle a $16.3 billion ground up residential property loss, which would include its $11 billion

[47]The FWUA was created in the 1970s to provide wind coverage to property owners who cannot obtain hurricane and windstorm coverage from private insurance companies. It has 430,000 policies with an exposure exceeding $90 billion.

current capacity limit along with an aggregate insurance industry retention of $3.8 billion and an aggregate copayment by insurers of about $1.5 billion.

Florida has not announced plans to use risk-linked securities to address capacity issues.

Appendix IV

Statutory Accounting Balance Sheet Implications of Reinsurance Contracts

Over the term of insurance policies, premiums that an insurance company collects are expected to pay for any insured claims and operational expenses of the insurer while providing the insurance company with a profit. The amount of projected claims that a single insurance policy may incur is estimated on the basis of the law of averages. An insurance company can obtain indemnification against claims associated with the insurance policies it has issued by entering into a reinsurance contract wit another insurance company, referred to as the reinsurer. The original insurer, referred to as the ceding company, pays an amount to the reinsure and the reinsurer agrees to reimburse the ceding company for a specified portion of the claims paid under the reinsured policy.

Reinsurance contracts can be structured in many different ways. Reinsurance transactions over the years have increased in complexity an sophistication. Reinsurance accounting practices are influenced not only by state insurance departments through NAIC, but also by SEC and FASB. If an insurer or reinsurer engages in international insurance, both government regulatory requirements and accounting techniques will vary widely among countries.

Statutory Accounting Principles promulgated by NAIC allow an insurance company that obtains reinsurance to reflect the transfer of risk for reinsurance on the financial statements that it files with state regulators under certain conditions. The regulatory requirements for allowing credit for reinsurance are designed to ensure that a true transfer of risk has occurred and any recoveries from reinsurance are collectible. By obtainin reinsurance, ceding companies are able to write more policies and obtain premium income while transferring a portion of the liability risk to the reinsurer. Under many reinsurance contracts, a commission is paid by the reinsurer to the ceding company to offset the ceding company's initial acquisition cost, premium taxes and fees, assessments, and general overhead. For example, if an insurer would like to receive reinsurance fo $10 million and negotiates a 20 percent ceding commission, then the insurer will be required to pay the reinsurer $8 million ($10 million premiums ceded, less $2 million ceding commission income). The effect o this transaction is to reduce the ceding company's assets by the $8 million paid for reinsurance, while reducing the company's liability for unearned premiums by the $10 million in liabilities transferred to the reinsurer. The $2 million is recorded by the ceding company as commission income. Thi type of transaction results in an economic benefit for the ceding company because the ceding commission increases equity. The reinsurer has assumed a $10 million liability and would basically report a mirror entry

that would have the opposite effects on its financial statements. Figure 7 shows the effects of the reinsurance transaction on both the ceding insurance company and reinsurance company's balance sheets and is intended to show how one transaction increases and decreases assets and liabilities.[48]

Figure 7: Effect on Ceding and Reinsurance Companies' Balance Sheets before and after a Reinsurance Transaction

Ceding company

	Before		After	
	Assets	Liabilities/ Equity	Assets	Liabilities/ Equity
Cash	$25,000,000		$17,000,000	
Unearned premium reserve		$20,000,000		$10,000,000
Policyholders' surplus		5,000,000		7,000,000
Total	**$25,000,000**	**$25,000,000**	**$17,000,000**	**$17,000,000**

Reinsurance company

	Before		After	
	Assets	Liabilities/ Equity	Assets	Liabilities/ Equity
Cash	$30,000,000		$38,000,000	
Unearned premium reserve		$25,000,000		$35,000,000
Policyholders' surplus		5,000,000		3,000,000
Total	**$30,000,000**	**$30,000,000**	**$38,000,000**	**$38,000,000**

Source: Insurance Accounting Systems Association.

[48]Whereas it appears that the ceding company increases its policyholders' surplus, this transaction does not include the effects of other normal business transactions that will cause the surplus to decrease.

Reinsurance contracts do not relieve the ceding insurer from its obligation to policyholders. Failure of reinsurers to honor their obligations could result in losses to the ceding insurer.

An insurer may also obtain risk reduction from an SPRV that issues an indemnity-based, risk-linked security; the recovery by the insurer would be similar to a traditional reinsurance transaction. However, if an insurer chooses to obtain risk reduction from sponsoring a nonindemnity-based, risk-linked security issued through an SPRV, the recovery could differ from the recovery provided by traditional reinsurance. Even though the insurer is reducing its risk, the accounting treatment would not allow a reduction of liability for the premiums.

Appendix V

Comments from the National Association of Insurance Commissioners

NAIC

NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

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Ms. Davi M. D'Agostino
Director, Financial Institutions and Community Investment
United States General Accounting Office
Washington, DC 20548

September 9, 2002

Dear Ms. D'Agostino:

Thank you for giving the NAIC the opportunity to comment on the report "Catastrophe Insurance Risks: the Role of Risk-Linked Securities and Factors Affecting Their Use".

The National Association of Insurance Commissioners (NAIC) is a voluntary organization of the chief insurance regulatory officials of the 50 states, the District of Columbia and four U.S. territories. The association's overriding objective is to assist state insurance regulators in protecting consumers and helping maintain the financial stability of the insurance industry by offering financial, actuarial, legal, computer, research, market conduct and economic expertise.

The NAIC formed a working group on Insurance Securitization in 1998 to "investigate whether there needs to be a regulatory response to continuing developments in insurance securitization, including the use of non-U.S. special purpose vehicles and to prepare educational material for regulators." As a result of its deliberations, the NAIC has taken the position that U.S. insurance regulators should encourage the development of alternative sources of capacity such as insurance securitizations and risk linked securities as long as such developments are commensurate with the overriding goal of the NAIC membership of consumer protection. As such, the NAIC believes that one goal should be to encourage and facilitate securitizations within the United States. If transactions that are currently performed offshore were brought back to the United States, they would be subject to on-shore supervision by U.S. regulators. Both the NAIC's Special Purpose Reinsurance Vehicle Model Act and the Protected Cell Company Model Act would require that at least one U.S. insurance commissioner would review each transaction in depth and set the appropriate standards. In addition, an NAIC member chairs the International Association of Insurance Supervisors' Subgroup on Insurance Securitization and fully agrees with these views.

At present, off-shore insurance securitizations are not subject to U.S. regulation, and the NAIC members are concerned about the appropriate use of Special

Purpose Vehicles. The recent events at Enron have demonstrated how inappropriate use of special purpose vehicles can endanger solvency. The NAIC membership believes that, properly used and structured, Special Purpose Reinsurance Vehicles may provide extra capacity, more competition, and may reduce the overall costs of insurance for the public. The NAIC membership therefore believes that on-shore SPRVs, regulated by U.S. insurance regulators, would be preferable to the current situation where most securitizations are conducted off-shore.

Again, we thank you for the opportunity to review and comment on the report.

Sincerely,

Therese M. Vaughan
President, NAIC
Iowa Insurance Commissioner

Appendix VI

Comments from the Reinsurance Association of America

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

RAA
REINSURANCE ASSOCIATION OF AMERICA
1301 Pennsylvania Avenue, N.W., Suite 900, Washington, D.C. 20004-1701

Telephone: (202) 638-3690
Facsimile: (202) 638-0936
http://www.reinsurance.org

September 9, 2002

Ms. Davi M. D'Agostino
Director of Financial Markets and
Community Investment
United States General Accounting Office
441 G Street, NW
Washington, DC 20508

Dear Ms. D'Agostino:

Thank you for providing the RAA an opportunity to comment on the GAO's preliminary report entitled "CATASTROPHE INSURANCE RISKS: The Role of Risk Linked Securities and Factors Affecting Their Use." We greatly appreciate this opportunity.

The Reinsurance Association of America (RAA) is a national trade association representing property and casualty organizations that specialize in reinsurance. The RAA membership is diverse, including large and small, broker and direct, U.S. companies and subsidiaries of foreign companies. Together, RAA members write more than 75% of the reinsurance written by U.S. property casualty reinsurers.

In general, we believe that the report provides an excellent summary of this complex and technical topic and should be a valuable primer for Congress relative to the roles of reinsurance and risk-linked securities in managing catastrophic risks. We would like to thank you for addressing our comments raised previously regarding the abundant capacity of the insurance and reinsurance industry to underwrite catastrophe risk exposure. We continue to have concerns in this area and have addressed them below. We also have differences regarding the GAO's characterization of risk-linked securities as "an alternative to reinsurance," which we have addressed below as well. Finally we have listed some more technical suggestions we believe should be incorporated in the report.

Capacity:

On page 5 the Report states, "in the case of extremely large or multiple catastrophic events, traditional reinsurance providers might not have sufficient capital to meet their existing obligations." In recent occurrences of major catastrophic events in the U.S., insurers and reinsurers have had sufficient capital to meet their obligations. For instance, after Hurricane Andrew (1992) $19.6 billion and the Northridge (1994) earthquake $14.9 billion in 2001 additional dollars, the two largest natural disasters on record in the U.S., not one reinsurer went insolvent and not one reinsurer failed to pay a claim as a result of insolvency or financial distress. Most recently, the reinsurance industry faced the largest insured loss event ever as a result of the September 11, 2001 terrorist attacks. The insured losses are expected to total approximately $60 billion, with the reinsurance industry paying for about 65% of that total. To date,

reinsurers' track record is excellent. We know of only one insolvency of a Japanese insurer regarding aviation liability.

Clearly there may be an event so large that it may threaten the ability of insurers and reinsurers to pay. However, since that has not been the case thus far we ask the GAO to add either a sentence or footnote explaining that traditional reinsurers have had the capital to meet their obligations in recent major catastrophic events. To not do so may draw an inference that the reinsurance industry does not meet is capital obligations.

Similarly, page 16 of the report states that in "Florida and California insurers refused to continue writing catastrophe coverage because of the lack of availability of reinsurance." We believe that the lack of reinsurance was not a key reason insurance companies refused to write. We ask that that sentence be modified to include the following additional factors that played a major role in the decision of insurers to write coverage.

Most of the California and Florida market was underwritten by insurers (State Farm, Allstate, and Farmers) that relied very little, if at all, on reinsurance capacity. In fact we note reinsurance capacity rebounded very quickly and the heightened market demand following Hurricane Andrew and Northridge Earthquake led to the creation of a new class of specialized property catastrophe reinsurers. The problem of insurance capacity in Florida and California was over concentration in the market among 3-4 primary companies, not the lack of reinsurance. The insured losses resulting from Andrew led many of these companies to reevaluate their market share.

Pricing problems also led to insurers refusing to write policies. Regulators did not permit the insurance market to charge adequate rates corresponding with the risks of those insurance policies. Inadequate insurance rates can make a risk that is insurable, uninsurable. Inadequate rates used by insurers threaten the viability of the underwriting entity. Those that wanted to write were restricted from doing so because the freeze on pricing restricted their ability to fully recoup their costs. Lastly, inadequate coverage flexibility affected insurers willingness to write new business, as did competition from subsidized residual market pools. All of these factors had a major impact on insurers' decision not to write after Andrew and Northridge, and we ask that this be noted in the report.

Use of Risk-Linked Securities:

There are numerous references in the report that "risk-linked securities are an alternative to reinsurance." We disagree with the characterization that securitized products are an alternative to reinsurance. Because of the significant differences between indemnity based reinsurance and risk-linked securities as well as the relative depth of the reinsurance market and the minimal actual use of securitization as an alternative market, it is an overstatement to characterize these instruments as a viable alternative to reinsurance. We ask that when such a reference is made that the reports state that they are a supplement to reinsurance. They supplement reinsurance capacity mainly for: (1) high layer coverage, for very rare events where they provide some experimental capacity on the fringe of the traditional market capacity and (2) where direct indemnity for losses is less important to the ceding companies. The relatively few securitizations actually put in effect in the last 5 years makes clear that insurers view securitization as supplemental to reinsurance and not a replacement.

Other comments:

Several technical suggestions follow:

See comment 1.

- Modify sentence on page 16 as follows: "In 1992 the Florida state legislature responded by establishing the Florida Hurricane Catastrophe fund to provide a layer of reinsurance for insurance companies operating in Florida." The CAT fund is not the sole provider of reinsurance in Florida, for the private reinsurance market provides reinsurance to many primary companies. Private reinsurance remains an integral part of insurers catastrophe risk management. We ask that this fact be recognized in the report.

See comment 2.

- We believe it is important to note that not one catastrophe bond contract has ever been triggered by an actual event. Therefore, not one securitization has yet to go through the process of paying out claims. Due to the very untested nature of these products we believe it is important to disclose this in the reports discussion of the regulatory, accounting, tax and investor issues that affect the use of risk-linked securities.

See comment 3.

- Throughout the report there are statements that risk-linked securities developed after significant catastrophe events. While this is true, we believe that in order to be more thorough there must be a footnote or discussion that property catastrophe events have also led to the creation of the Bermuda property reinsurance market. The Bermuda market has played a major role in introducing new capacity into the marketplace after a major event. This is not only evidenced in the market development after Hurricane Andrew, but most recently after the terrorist attacks of September 11.

Now on p. 5.
See comment 4.

- On page 7 in the discussion on the regulatory, accounting, tax and investor issues for risk-linked securities we believe it should be noted that the Financial Accounting Standards Board is developing new more stringent standards requiring consolidation of special purpose entities.

Now on p. 18.
See comment 5.

- On page 19 in the discussion as to why risk-linked securities are conducted offshore it should be noted that another reason is due to bankruptcy remoteness.

Thank your for the opportunity to provide comments on the preliminary report on risk-linked securities. If you have any questions please contact me at 202-638-3690.

Sincerely,

Franklin W. Nutter
President

The following are GAO's comments on the Reinsurance Association of America's letter dated September 9, 2002.

GAO Comments

1. In appendix III of the draft report we had already noted that the Florida Hurricane Catastrophe Fund provides reinsurance to supplement that available from private sources. We added a footnote on page 15 to note that reinsurance is also available from private sources for property and casualty insurance companies doing business in Florida.

2. We agree and have added a footnote on page 29 to state that no catastrophe bond contracts have been triggered by an actual event.

3. We agree and have added a footnote on page 14 on the creation of the Bermuda reinsurance market and its role in introducing new capacity into the marketplace after a major event.

4. This issue is covered on pages 24 through 26.

5. Bankruptcy remoteness is among the reasons that the special purpose entities are established, whether domestically or offshore.

Appendix VII

Comments from the Bond Market Association

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

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September 10, 2002

Ms. Davi M. D'Agostino
Director, Financial Markets and Community Investment
United States General Accounting Office
Washington, D.C. 20548

Re: **Comments on Draft GAO Report, "Catastrophe Insurance Risks: The Role of Risk-Linked Securities and Factors Affecting Their Use" (GAO-02-941)**

Dear Ms. D'Agostino:

The Bond Market Association (the "Association")[1] is pleased to respond to GAO's request for comments on the above-referenced draft report (the "Report").[2]

Overall, we believe that the Report is an accurate, well-researched and well-written document. As such, we think it will be helpful in facilitating a broader understanding of the purposes and benefits of risk-linked securities ("RLS"), and certain key business, economic, regulatory and other factors that may affect the viability of this innovative tool for the management and transfer of catastrophic insurance risk.

We have divided our comments on the Report into two principal sections. The first section of this letter offers broader, general comments and observations that relate to several important policy issues raised in the Report. The second section provides input on a number of specific, technical issues throughout the document. Our general and specific comments follow.

I. Broader/General Comments

A. The Role of RLS as a Private Capital Market Alternative to Potential Governmental Assumption of Insurance Risk

The Report correctly notes that the nation's exposure to higher property and casualty losses increases pressure within the private and public sector alike to assume ever-larger liabilities for losses associated with natural catastrophes. This observation is

[1] The Association represents securities firms and banks that underwrite, distribute and trade fixed income securities, both domestically and internationally. Our members are actively involved in the primary issuance and secondary trading markets for risk-linked securities. This letter was prepared based upon input provided by members of the Association's Risk-Linked Securities Committee, which includes senior business and legal professionals from Association member firms. Additional information about the Association, its members and activities may be obtained via the Internet at www.bondmarkets.com.

[2] GAO's request for comments was made via letter dated August 26, 2002 from Davi M. D'Agostino, Director, Financial Markets and Community Investment of GAO, to Micah Green, President of the Association.

particularly relevant for state and federal governments, who are sometimes viewed as "insurers of last resort."[3] RLS constitute an important, supplemental tool for risk management and risk transfer. The emergence of RLS has created additional capacity, and new mechanisms, for the private sector assumption and distribution of catastrophic risk beyond that which has historically been available via the traditional insurance and reinsurance markets. The fully collateralized structure of RLS provides a mechanism to significantly mitigate the risk of uncollectible reinsurance following a major catastrophic event. As such, the expanded usage and application of RLS can relieve pressures that governments may otherwise face to bear these risks directly. We believe that this potential "replacement" effect is significant in its own right. It is especially relevant, however when considering various policy issues and potential trade-offs associated with efforts to facilitate growth of the RLS market

B. Motivations for Off-Shore RLS Issuance and the Facilitation of On-Shore Issuance Vehicles

See comment 1.

The Report states in several places that RLS issuance vehicles are usually established offshore to take advantage of lower minimum required levels of capital, favorable tax treatment, and a generally reduced level of regulatory scrutiny. We believe that the Report should clarify this statement in several respects, as well as the related motivation to establish on-shore RLS issuance vehicles.

The principal reason that RLS vehicles are organized offshore is to avoid entity-level taxation of those vehicles—not, as the Report appears to suggest, to avoid regulatory scrutiny by U.S. authorities. The Report correctly notes that in certain respects the status of RLS issuance vehicles for U.S. federal income tax purposes is uncertain, and that this uncertainty risks the vehicle being subjected to entity-level taxation. This outcome would substantially impair the economic rationale for most, if not all RLS issuance, and is the principal reason that such vehicles are organized and conduct most of their activities outside of the U.S. It is true that in other respects, the laws and regulations of the principal offshore jurisdictions may offer a more favorable regulatory environment for RLS issuance than is the case in the U.S. Again, however, neither regulatory "arbitrage" nor the avoidance of scrutiny by U.S. regulatory authorities is a primary factor underlying the prevalence of offshore RLS issuance vehicles.

The Report notes that pass-through treatment of RLS has been proposed. Although the details require further development and refinement, the Association believes that such an initiative represents a desirable policy action and should be pursued. As suggested above, establishing pass-through tax treatment (ideally, by establishing special tax rules governing the structure and permitted activities of RLS issuance vehicles, along the lines of the REMIC and FASIT legislative initiatives described in the Report) would facilitate the creation of onshore RLS vehicles. This would, also as noted in the Report, lessen

[3] Appendix II of the Report provides data that are illustrative in this context. For example, only 17% of California residences carried earthquake insurance at the end of 2001, and as of January 2002, the California Earthquake Authority had a claims-paying capacity of approximately $7 billion against the possibility of substantially larger earthquake losses.

transaction costs associated exclusively with current requirements to conduct most activities relating to the creation and operation of the issuing vehicle in a non-U.S. jurisdiction. Reducing these transaction costs would render the execution of RLS transactions even more efficient.

The primary concerns cited in the report in connection with the allowance of pass-through tax treatment—potential tax revenue losses to the U.S. Treasury, and unfair regulatory and tax advantages that are not afforded to existing U.S.-licensed and taxed reinsurance companies—are not relevant to RLS structures, in the Association's view.

With respect to possible tax revenue losses, the Report notes that such losses could result to the extent that domestic issuance vehicles gained business at the expense of taxable entities, such as reinsurers. The fact that a large percentage of entities that currently provide reinsurance coverage are based outside of the U.S.—including all new reinsurance companies established in the wake of September 11, 2001—suggests that any such tax impact would not be dramatic. In addition, the issuance vehicles for RLS are themselves tax neutral in the sense that they generate no economic gain or loss. All premium received and investment income generated by these vehicles are paid out to investors, after expenses of administration of the vehicles, in the form of coupon on the RLS issued by the vehicles.[4] Moreover, any potential loss of U.S. tax revenue must be weighed against the policy benefits associated with creating additional private sector capacity to absorb and distribute insurance risk.[5] As noted in the Report and in our comments, this outcome would be facilitated by establishing pass-through tax treatment for RLS, and with it, the use of on-shore RLS issuance vehicles.

With respect to possible unfair regulatory advantages, the Report notes opposition from the Reinsurance Association of America to the creation of onshore RLS vehicles. This opposition includes the concern that such vehicles act as reinsurers without being subject to insurance regulation, thus endangering solvency regulation. We believe that any such solvency-related concerns are misplaced, given that RLS are fully collateralized and entail no credit risk for their insurance company sponsors.

C. Proposed Accounting Treatment Affecting RLS

In the section of the Report beginning on page 28 entitled, "A Proposed Rule on Equity Requirements Could Affect Catastrophe Bonds," prospective changes to U.S. generally accepted accounting principles ("GAAP") are discussed. Specifically, this section of the Report describes proposals under consideration by the Financial Accounting Standards Board ("FASB") relating to consolidation of special-purpose entities, or SPEs (which

[4] The investors that receive the coupon payments on RLS are largely U.S. taxpayers either directly or indirectly, in contrast to the bulk of the recently created reinsurance capacity for catastrophe risk, which as noted above has been located offshore.
[5] If RLS on-shore issuance vehicles were permitted, we believe that U.S. tax revenues would result from the taxation of related activities that are now conducted outside of the United States, such as the administrative, legal, accounting and other services provided to and paid for by RLS SPEs.

would generally encompass RLS issuance vehicles), and related third-party equity requirements to avoid consolidation of the RLS vehicle by its primary beneficiary.

Throughout the spring and early summer of 2002, FASB engaged in extensive deliberations on the nature of proposed revisions to its existing SPE consolidation criteria. During these deliberations, a number of different conceptual models and specific consolidation criteria were discussed, amended and refined. This led to FASB's issuance on June 28, 2002, of a definitive exposure draft setting forth proposed changes to existing GAAP standards governing SPE consolidation.[6]

The description of FASB's SPE consolidation proposals contained in the Report appears to relate to criteria that had been under discussion by FASB at various times during the above deliberations, but which were amended in several important respects in the final exposure draft. In particular, the final exposure draft provides several alternative means of evaluating SPEs for consolidation. One such alternative does not require satisfaction of any specific outside equity threshold for transaction structures where the risks and rewards of SPE assets have been transferred to independent third parties (the "variable interests" approach, as further described in the exposure draft).

In general, the Association believes that it may be possible to apply FASB's proposed variable interests approach to SPEs used in RLS transactions in a manner that eliminates any requirement to satisfy a particular outside equity threshold. Under the variable interests analysis, the return to investors would appear to constitute the true variability in the economics of the transaction structure for RLS.

To the extent that any single investor holds a majority of these variable interests (i.e., the securities issued by the SPE), then consolidation by that investor would be appropriate, as it could be viewed as possessing a controlling financial interest in the SPE. Absent such a majority holding by any single entity or other demonstrable evidence of a *de facto* controlling financial interest in an SPE, the Association believes that it would be inappropriate for any entity to reflect the entirety of the SPE's assets and liabilities on its balance sheet, as it neither has access to those assets nor exposure to those liabilities. In these circumstances, consolidation would be inconsistent with the underlying economics of the transaction, and would produce misleading financial statements. Moreover, the risk of such consolidation would likely operate as a substantial disincentive to future RLS issuance, as transaction sponsors, investors and other entities would be unwilling to assume the risk of an inappropriate "ballooning" of their balance sheets.

Unfortunately, under FASB's proposal as drafted, no special circumstances or demonstrable *de facto* controlling financial interest is necessary to require consolidation without a majority of variable interests. The absolute rule (not even a rebuttable presumption) is that if no party holds a majority of an SPE's variable interests, then any party that has a significant variable interest that is significantly larger than any other

[6] *See* "Exposure Draft on Consolidation of Certain Special-Purpose Entities, a Proposed Interpretation of ARB No. 51," dated June 28, 2002 issued by the Financial Accounting Standards Board (available from FASB's Internet website at www.fasb.org).

party's is required to consolidate. We believe that this new paradigm will result in numerous false positives, requiring consolidation by enterprises that in fact do not exercise a controlling financial interest. We strongly oppose this result and, consequently, also oppose the new paradigm.

The comment period for FASB's exposure draft expired on August 30, 2002, with final guidance expected to be issued by year-end. The Association and its adjunct American Securitization Forum provided extensive comments to FASB in connection with these proposals.[7] These comments focused primarily on the impact that these proposals would have on various categories of "risk-dispersing" SPEs, such as those employed in RLS transactions, for which consolidation should generally not be required. A complete copy of those comments may be obtained from the Association's Internet website, at the address contained in footnote 1 of this letter.

D. Investor Participation in the RLS Market

The Report notes that RLS do not have broad investor participation, and that these instruments have not attracted a wide range of investors beyond larger institutions. Several reasons are provided to explain this phenomenon, including that "the risks of these securities are difficult to assess" as well as "concerns about the limited liquidity and track record of catastrophe bonds."

The above comments suggest that limited investor involvement to date in the RLS sector is due principally to the complexity and lack of a sufficient performance history of RLS, which has impaired their broader liquidity and marketability. We believe that this represents an incomplete and somewhat inaccurate portrayal of the dynamics of investor participation in the RLS sector.

See comment 2.

Because of suitability concerns, RLS are not sold directly to individual investors. However, we believe that they are entirely appropriate for mutual funds in which individual investors hold shares. In fact, several major fixed income funds have purchased RLS as part of their overall portfolios. As institutional investors, mutual fund managers are well-equipped to perform the necessary analysis of relative value and risk associated with RLS. From the perspective of a mutual fund investor, the complexity and risk associated with RLS are no more pronounced than for other investment products that are widely held by mutual funds, and that require a comparable level of sophistication to comprehend basic investment risk (e.g., mortgage-backed securities, where valuation analysis depends largely upon assessing the optionality associated with principal prepayments by underlying borrowers). In addition, the low correlation of RLS with other asset classes can enhance a fund's overall risk-adjusted return.

Moreover, it is not clear whether the lack of broader investor interest in RLS results from the absence of understanding of or demand for these instruments *per se*, or whether it is

[7] *See* letters dated August 22, 2002 and August 29, 2002 from the American Securitization Forum and the Association, respectively, to FASB in connection with the above-referenced exposure draft (both letters are available at www.bondmarkets.com)

more simply a function of relatively limited issuance (which in turn is driven principally by reinsurance pricing levels, as discussed below). The supply of RLS brought to market to date has been readily absorbed by investors. There is no compelling basis to conclude that additional supply would not be similarly absorbed, possibly by a wider range of investors as liquidity concerns diminish. In fact, the universe of RLS investors expanded after September 11, 2001. This universe now includes several additional funds created specifically to invest in RLS. The additional commitment of funds to this asset class has contributed to a decline in the level of spreads in both the new issuance and secondary markets. This level is now below the level of spreads prior to September 11.

E. Importance and Global Interdependence of Reinsurance Pricing for RLS Market

In several sections of the Report—principally, under the headings "Insurers are Subject to Reinsurance Price and Availability Swings" on page 16, and "Catastrophic Risk Can be Transferred to Capital Markets" on page 18, several references are made to the way in which reinsurance pricing affects the relative attractiveness of RLS to potential transaction sponsors. The Association agrees that reinsurance pricing is one of several important factors that drive RLS issuance. Traditional catastrophic reinsurance, RLS issuance and equity capital issuance are complements to each other, because they all address an insurer's need to maintain sufficient capital to meet claims made following a catastrophic event. If the cost of either traditional reinsurance or equity capital increases, RLS becomes more attractive. Perhaps more importantly for the growth of the RLS market, as the cost of RLS declines, issuance rises because RLS becomes a cheaper source of capital.[8]

See comment 3.

Figure 4 on page 17 of the Report, which sets forth an index for U.S reinsurance pricing between 1989 and 2001,[9] shows an uptick in the price index in 1999, after a long downward trend following the Northridge earthquake. The reason for this reversal is the near record worldwide-insured losses in 1999 of approximately $28 billion, slightly under 1992 losses of approximately $29 billion. The primary causes of 1999 insurance losses were two back-to-back winter storms in Europe, Lothar and Martin, that caused total insured losses of approximately $7 billion. While not as dramatic as the insured losses caused by Hurricane Andrew and the Northridge earthquake, these winter storm events, together with a number of smaller losses occasioned by other catastrophic events that year (including Hurricane Floyd), caused near-record insurance losses and were sufficient to reverse the downward price trend in the reinsurance market. The central conclusion to be drawn from these data, we believe, is the interdependence of reinsurance market pricing (and thus the relative attractiveness of RLS) and, more specifically, the effect that non-U.S. catastrophic events can have on U.S. reinsurance pricing.

[8] A decline in the cost of RLS may result from several factors. The most important factor would be a decline in spreads demanded by investors to clear RLS transactions. Another factor would be a decrease in the expenses associated with the execution and ongoing administration of RLS transactions.
[9] For clarity, we suggest that the title accompanying this graph specify that the index relates to pricing for *catastrophic event* reinsurance coverage.

Now on p.17.
See comment 4.

On page 19, the Report states that "Demand by insurance company sponsors [to issue RLS] will depend, in part, on basis risk faced and the ability of sponsors to hedge this basis risk." This statement is correct, but could imply that a sponsor's ability to hedge basis risk constitutes the principal motivation for RLS issuance. As suggested above, while the ability to hedge basis risk is a factor that insurance company sponsors need to consider when evaluating risk coverage options, reinsurance pricing is a critical driver of RLS issuance.[10]

II. Specific/Technical Comments

For ease of reference, the following technical comments are keyed to specific page numbers of the Report:

Now on p. 4.
See comment 5.

Page 6: The first full sentence of this page states that "...catastrophe bonds involve higher transaction costs than traditional reinsurance..." This is not always the case, as the efficiencies associated with larger volume, multi-year RLS transactions can render these costs comparable.

Now on pp. 5 and 18.
See comment 6.

Page 7, Page 21: These sections of the Report include statements to the effect that all catastrophe bonds (RLS) carry a non-investment grade credit rating. In fact, a small but growing percentage of newly-issued RLS has been investment grade.[11] The emergence of dedicated RLS mutual funds seeking investment grade products has contributed to this trend.

Now on p. 17.
See comment 7.

Page 19: Data is cited at the bottom of the page stating that between 1996 and August 2001, approximately $11-13 billion of RLS were issued worldwide. These data include life and synthetic credit securitizations; since the focus of the Report is on catastrophe bonds, it may be appropriate to state that approximately $6-7 billion in catastrophe-related RLS were issued during this time period.

Now on p. 17.
See comment 8.

Page 19: At the top of this page, a number of investor preferences for nonindemnity-based insurance coverage are noted. We believe that it would be useful to point out that there are often compelling reasons for RLS transaction sponsors to utilize nonindemnity-based structures. Among other reasons, such structures may more effectively shield the confidentiality of the sponsor's underwriting criteria; may provide for more streamlined deal structuring and execution; and facilitate a more rapid payout in response to triggering events.

Now on p. 18.
See comment 9.

Page 21: This section of the Report briefly discusses and contrasts catastrophe bonds with catastrophe options. Several relative advantages of catastrophe bonds are noted, including customizable offerings and multi-year pricing. We believe that the more important advantage that catastrophe bonds confer in comparison with catastrophe options is that the

[10] Professional reinsurers have, to a limited but increasing extent, supplemented RLS transactions by providing sponsors of RLS transactions with basis risk reinsurance coverage.
[11] Non-investment grade RLS, as a percentage of RLS outstanding, has decreased from 94.7% in 1999 to 83.1% at June 30, 2002, according to Cochran Caronia & Co.

Now on p. 21.
See comment 10.

Now on pp. 37 and 38.
See comment 11.

former, unlike the latter, are fully collateralized and carry no credit risk on the part of the sponsor. We believe that this distinction is the principal reason underlying the relatively limited historical appeal of catastrophe options in distributing insurance risk via the capital markets.

Page 24: The carry-over paragraph on this page should clarify that both traditional reinsurers *and state insurance departments* rely on catastrophe modeling firms. The third sentence in this paragraph should state that rating agencies rate the bonds according to frequency *of loss* as well as expected loss.

Page 43: The discussion of the California Earthquake Authority Financial Structure should be updated. We understand that this structure was not executed, based principally on concerns about the appearance created by the use of an offshore issuance vehicle.

III. Conclusion

Again, the Association greatly appreciates the opportunity to comment on the Report. We commend the GAO for producing a useful and illuminating document, which should inform future legislative, regulatory and broader policy discussions concerning the innovative risk-linked securities market.

We would be pleased to assist you in any further research you may conduct in connection with this topic. Should you have questions or desire additional information concerning any of the matters addressed in the foregoing comments, please do not hesitate to contact either of the undersigned at (212) 440-9400.

Sincerely,

George Miller
Senior Vice President and Deputy General Counsel
The Bond Market Association

Michel de Konkoly Thege
Vice President and Associate General Counsel
The Bond Market Association

The following are GAO's comments on the Bond Market Association's letter dated September 10, 2002.

GAO Comments

1. Our report does not assign relative weights to the factors that lead to risk-linked securities being established offshore. We have added a footnote on page 21 to indicate that BMA believes that the principal reason risk-linked securities are organized offshore is to avoid taxation.

2. In contrast to BMA's view, we state that a primary reason for limited investor participation in risk-linked securities is that the risks of these securities are difficult to assess. Also, the risks of risk-linked securities and mortgage-backed securities are assessed differently. For example, the risk of loss from a natural catastrophic event, such as an earthquake in a specified geographic area over a specified time period, is often based on events that will only happen once over a long-time horizon and in some cases as long as an 100-year period. Therefore, investors must rely heavily on complex scientific analysis of the likelihood of the event, rather than statistical modeling. In contrast, the risk of loss from events such as defaults on home mortgage payments by borrowers occurs frequently, and extensive statistics are available to assess such risks.

3. We agree and our draft report discussed the relationship between reinsurance prices and interest in risk-linked securities as alternatives to traditional reinsurance. We also agree and have added a footnote on page 15 to indicate that U.S. reinsurance prices are influenced by catastrophic events outside of the United States.

4. We did not order by relative importance the reasons insurance companies stated for their interest in risk-linked securities.

5. We have changed the text on page 4 by inserting the word "generally."

6. In our analysis, we relied on information provided by rating agencies for our discussion of credit ratings. Our draft report indicated that some catastrophe bonds contain tranches that have received investment-grade ratings. We added language to a footnote on page 18 to note BMA's statement that some newly issued, risk-linked securities have been investment grade.

7. We have added language to a footnote on page 17 to note BMA's statement that about $6 to $7 billion in catastrophe related, risk-linked securities were issued during this time period.

8. We have added a footnote on page 17 that states BMA's view that there are often compelling reasons for sponsors of risk-linked securities to use nonindemnity-based structures.

9. On the basis of information we obtained from the CBOT and market participants, our draft report stated that the options were to have offered minimal credit risk because the Board of Trade Clearing Corporation guaranteed the transactions. There were several reasons why catastrophe options had limited appeal, including daily marking to market, difficulties in accounting for options trading in insurance company accounting, basis risk, the unfamiliarity of locals with the product, lack of insurance company membership at CBOT, lack of investment by CBOT, the structure of the contract, lack of liquidity, and other factors.

10. We have added language to a footnote on page 21 saying that bonds are rated according to frequency of loss as well as expected loss. As stated in our draft report, rating agencies provide bond ratings on the basis of their assessment of loss probabilities and financial severity. We use the term expected loss to mean the outcome from analyzing frequency of loss and expected loss when it occurs.

11. We added language in appendix III that the Governing Board of the California Earthquake Authority has not authorized use of catastrophe bonds because of concerns about the appearance of being involved in offshore transactions in tax havens.

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