Remarks of
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It is a pleasure to be with you today at GARP's Annual Risk Management Convention. As provided in its mission statement, GARP strives to be the leading professional association for risk managers, dedicated to the promotion of best practices in risk management around the globe. In that context, I would like to focus my remarks today on a particular structured security that certainly has had profound risk management implications during the credit market disruptions that have been with us since last summer. I am referring to the so-called "super-senior" tranches of collateralized debt obligations consisting of securities backed by subprime mortgages, or "subprime ABS CDOs," as they are often called.

These better-than-triple A tranches were supposed to be the least risky parts of the subprime securities pyramid. Instead they have generated the clear majority of reported subprime writedowns in capital markets, which in turn have been at the core of several of the worst episodes of the market's disruptions: the seizing up of the asset-backed commercial paper market because of conduit and SIV investments in these instruments; the huge, surprising, and concentrated losses in commercial and investment banks that packaged and sold subprime ABS CDOs; the large losses in regulated firms that thought they had conservatively purchased "safe" securities, including regional banks from as far away as Germany; and most recently in the news, the large losses projected for monoline insurance companies that sold credit protection on these super-senior tranches.

How could this one instrument, which was supposed to be so safe, generate so much loss and so many problems for capital markets? Where was the risk management? And how did this happen at the regulated institutions that are subject to prudential investment restrictions and supervision, like commercial banks, securities firms, and insurance companies?

These are all excellent questions. They have been very much on the minds of policymakers and regulators as we try to learn the right lessons to avoid repeating these problems in the future – even as markets have reacted predictably in the short term by shutting down the creation and sale of subprime ABS CDOs.

Indeed, the performance of credit risk transfer instruments like CDOs and credit default swaps has been a particular focus of an international group that I chair called the Joint Forum, which consists of key supervisors of the banking, securities, and insurance industries. In 2005 the Joint Forum published an excellent paper on Credit Risk Transfer instruments that anticipated a number of the issues that have come to the surface during the recent market turmoil. That report preceded the huge recent growth in subprime ABS CDOs, however, so most recently the Joint Forum has spent a considerable amount of time updating the earlier paper to reflect the performance of these instruments during the credit market disruptions. Our intent is to pass along the results of this work to the Financial Stability Forum and other policymakers as an important contribution to understanding the causes of the current market turmoil and changes that should be made going forward.

In fact, I spent all last week at a Joint Forum meeting where ABS CDOs were very much a topic of discussion, and that has sharpened my focus on the questions I just posed. Before sharing with you my observations on these questions, however, let me step back and

provide some basic background and context about ABS CDOs to help frame the discussion for those of you less familiar with the issue – and for those of you who are already intimately familiar with these products, please bear with me as I oversimplify somewhat to set the stage.

We start several years ago, of course, with a world flush with liquidity, where interest rates and credit losses were exceptionally low, and house prices in the United States had a track record of increasing each year. Investors were hungry for yield, and subprime mortgages – the riskiest of mortgages – produced the highest yield.

Using the principle of credit subordination, structured credit products offered the prospect of transforming a high-risk, high yielding pool of subprime mortgages into "tranches" of varying risk to suit differing risk appetites of different investors. That included investors with very low risk tolerances looking only for triple A investments. In a simple residential mortgage-backed security, credit subordination allows a geographically diversified pool of lower quality subprime loans to produce a senior tranche of high quality credit if there are enough investors willing to purchase junior tranches to absorb first losses on the underlying loans.

Of course, in order for a conservative investor to get comfortable with the credit quality of the senior tranche, there must be a blessing from a credit rating agency in the form of a triple A rating. When the credit rating agency provided that designation to the senior tranche of a mortgage-backed security, it was a judgment that the junior tranches were large enough to absorb so much of the losses of the underlying mortgages that the probability of default for the senior tranche was generally as low as it would be for a triple A-rated corporate security. Thus, the triple A rating sent a very powerful signal to the investor and regulatory community that the senior tranche was truly low risk.

A subprime ABS CDO took the whole process to another layer. As many of you know well, ABS CDOs are a form of re-securitization, where the underlying pool consists of interests in tranches of many different subprime mortgage-backed securities. In many cases, assets in the pool were not in the triple A-rated senior tranches of these securities, but instead in the lower-rated junior, or "mezzanine," tranches. The CDO pool of these mezzanine tranches was then itself separated into senior and junior tranches using the same basic subordination principle that was used to tranche each of the underlying asset-backed securities in the CDO pool.

With a CDO, however, it is considerably more difficult to determine how much subordination is needed in the junior tranches to protect the senior tranches from credit losses to the same extent as other triple A-rated securities. The difficulty comes in valuing the underlying mortgage-backed securities in the CDO pool – often as many as a hundred – and establishing reliable estimates of default correlation among these securities.

Despite this complexity, the credit rating agencies believed they had enough information to rate all the tranches of the typical ABS CDO. As with other asset-backed securities, this included providing a triple A rating to a senior tranche. But unlike a typical ABS, the structurers of CDOs also included a tranche that was senior to the senior tranche that was rated triple A – the "super-senior" tranche. By being senior to the triple A tranche, the super-senior tranche would have an even lower probability of default than triple-A rated securities generally, including triple A-rated corporate securities. Again, this label was a powerful designation of safe credit to the investing community.

Let me make one additional, and important, point about the typical ABS CDO structure. The junior tranches absorbing first losses obviously had to be big enough to

provide the amount of credit protection that would give the senior tranches their triple A designation. Nevertheless, the senior and super-senior tranches were by far the largest tranches in the CDO, often comprising more than 70 percent of the notional value of the CDO pool.

Why would structurers go to the trouble of re-securitizing tranches of mortgage-backed securities into tranched CDOs? The answer appears to be that there was strong demand for the junior tranches of these ABS CDOs because they produced relatively higher yields than other types of securities that had the same credit ratings. In addition, there was perceived to be increased diversification benefits resulting from having multiple pools of subprime mortgages reflected in the CDO pool, rather than having a single pool. That is, the larger number of underlying subprime mortgages in the CDO pool meant that the risk of idiosyncratic loss from a small number of nonperforming mortgages would be mitigated to a much greater extent than they would be in a single ABS pool. There was less demand, however, for the much larger senior and super-senior tranches because of the significantly lower yield they paid as a reflection of what was thought to be their much lower risk.

With that very basic background, let's turn to some key consequences of having very complex, subprime-related, super-senior securities that were widely touted as having a lower probability of default than triple A-rated securities generally.

First, because of their triple A rating, virtually any investor could buy super-senior ABS CDO securities either directly, or indirectly by purchasing commercial paper from triple A-rated conduits that owned such securities. Among these investors were ones that were very risk-averse, including some regulated firms that have legal restrictions that prevent or limit their investing in riskier instruments. I am talking, for example, about banks, thrifts,

credit unions, insurance companies, money market funds, pension funds, and state and local governments, all of which have investment restrictions that make direct reference to credit ratings. As a result, as we now know, a number of such firms purchased super-senior CDO securities, either directly or through conduits.

Second, even though the structured securities market is widely thought to be based on the "originate-to-distribute" model – with fees generated from distributing securities, not holding them – the commercial and investment banks that structured subprime ABS CDOs for sale often retained a very large proportion of the super-senior tranches, which were less in demand by investors due to their relatively lower yield. Why did they agree to retain them? Because the firms generated a great deal of fees in selling the junior tranches, and because the senior and super-senior tranches were thought to involve so little risk – as evidenced by their triple A ratings. As a result, a number of ABS CDO structurers accumulated exceptionally large concentrations in super-senior ABS CDO securities.

Third, because the large amount of super-senior tranches were using up the structuring firms' balance sheet capacity, they began to look for ways to move the securities off balance sheet. One means of doing this was selling the securities to triple A-rated asset-backed conduits and structured investment vehicles sponsored by the firms, which in turn issued commercial paper to a range of risk-averse investors.

Fourth, some of the structuring firms that accumulated large positions in super senior ABS CDOs sought to hedge them by buying credit default swaps referencing the default risk of such securities. One type of entity prepared to sell such CDS protection in quantity was, as we now know, monoline insurers. These companies were paid well to enter this new line

of insurance for debt securities, and they, too, were comforted in doing so by the triple A ratings provided by the credit rating agencies.

Finally, the supervisors that examined the firms that structured CDOs – including the OCC – provided less scrutiny to super-senior ABS CDOs than they did to lower-rated securities and unrated loans and other vehicles that exposed the firms to credit risk. In a world of risk-based supervision, supervisors pay proportionally more attention to the instruments that appear to present the greatest risk – which typically does not include triple A-rated securities.

Against this backdrop, we all know what happened next:

- Subprime mortgage underwriting standards systematically declined in 2005 and 2006. Loans originated in those years were particularly vulnerable to flat and declining house prices.
- Beginning in about 2005, home price appreciation in the US began to slow. In 2007, national median home prices fell for the first time in many decades. Delinquencies and defaults skyrocketed.
- Rating agencies realized that they had been far too generous with their ratings of securities based on subprime mortgages, including their triple A ratings of super-senior tranches of ABS CDOs. That led to sudden, multi-notch downgrades in massive and historically unprecedented proportions. For example, as revealed by Joint Forum research, late last year Moody's downgraded 198 triple A-rated ABS CDO tranches. More than half of the downgrades exceeded 7 notches (Aaa to Baa1); 30 were downgraded 10 or more notches to below-investment grade; and one was downgraded 16 notches

from Aaa to Caa1. In contrast, since 1970 Moody's has never downgraded a triple A-rated corporate bond more than six notches (to single A) in a single step.

- Through a chain of events, these downgrades triggered huge mark-to-market losses on super-senior ABS CDO securities held by a wide range of institutions, including regulated firms; CDO packagers; off-balance sheet conduits; and monoline insurers.
- The total publicly reported losses from ABS CDOs were enormous, with a majority of the losses resulting from holdings of the super-senior tranches of those instruments.

All of which takes me back to my original questions: How did such a supposedly super safe investment cause so much loss? And what are the lessons that should be learned from this experience going forward? While the market and the credit rating agencies have certainly shied away from subprime ABS CDOs for the foreseeable future, I believe there is broad agreement among policymakers and supervisors that more needs to be done to prevent a recurrence of similar problems, not just with respect to super-senior tranches of ABS CDOs, but also with respect to a range of issues that have arisen out of the market turmoil. Indeed, these issues are very much the topic of discussion by the Financial Stability Forum, the Joint Forum, and many others.

For today, I will limit my closing observations to the types of actions being considered in response to the huge losses on super-senior tranches of ABS CDOs. In doing so, let me emphasize that these observations are my own; the list is not complete; and no final conclusions have yet been reached on specific recommended actions.

First, and most obviously, underwriting standards for subprime mortgages need to be improved significantly. The market has already done this in the short term, but for the long term, more needs to be done by regulators and supervisors. While national banks were not the primary originators of subprime mortgages that have gone bust – they originated just 10 percent of such mortgages in 2006, for example, with lower delinquency rates than the national average – the OCC has joined other regulators in raising standards across the board for all banking organizations. The challenge will be to extend these standards in a meaningful way to nonbank lenders and brokers regulated exclusively by the states.

Second, the credit rating agencies need to change their approach to rating subprime ABS CDOs, especially the senior and super-senior tranches. Although, as I will mention next, investors should never rely exclusively on credit ratings in making investment decisions, the plain fact is that triple A credit ratings are a powerful green light for conservative investors all over the world. These include banks, insurance companies, and other firms whose regulatory regimes are laced with restrictions that reference high credit ratings as a simple way to limit risk. If the rating agencies get these high credit ratings badly wrong – as appears to have been the case with the ratings of super-senior tranches of ABS CDOs – then the consequences can be disastrous, as we have painfully witnessed in firm after firm around the world.

So what should the rating agencies do? One thought is that they should simply revise their rating methodologies to require much more credit subordination in junior tranches in order for senior tranches to have a probability of default that is similar to the probability of default of triple-A rated securities generally. But is that really enough?

Our work in the Joint Forum has focused on a critical characteristic of triple A-rated super-senior ABS CDO securities that may have lead them to perform quite differently than other types of triple A-rated securities, such as individual corporate securities. Many of you in this audience will be familiar with this characteristic, which is the fact that the extremely broad range of subprime loans underlying a super senior tranche of an ABS CDO effectively diversifies away idiosyncratic risk. Peculiar or idiosyncratic circumstances could well apply to a single corporate issuer in a way that would cause that issuer to default on a triple A-rated obligation. But similarly unique circumstances with respect to a handful of subprime mortgages in a widely diversified CDO pool are unlikely to lead to a default on the CDO's triple A-rated super-senior obligation.

On the other hand, the CDO pool remains very exposed to systematic risk: if an event occurs that leads to subprime losses generally, then losses on the super-senior tranche are likely to be extreme. Put another way, as one of our Joint Forum authors has put it, these notes can be expected to perform well under most conditions, but in times of severe systematic stress they may incur exceptionally large losses.

Because of the difference in the composition of risk – that is, the difference in the balance between indiosyncratic and systematic risk – I would argue that triple A-rated super-senior tranches of ABS CDOs perform fundamentally differently from triple A-rated corporate securities. I also suspect that, while many sophisticated risk managers may have grasped this distinction, many others did not.

At a minimum, I believe that the credit rating agencies need to do a much better job in disclosing the distinctions between the likely performance of triple A-rated structured securities and triple A-rated corporate securities. If triple A means different things in

different contexts, then we all need to know that. The credit rating agencies themselves have recognized this issue by soliciting comment on possible changes to the rating scales that apply to structured securities, including separate ratings scales or scales that indicate expressly that the rating applies to a structured credit. I believe that is a healthy subject for debate, and I would urge you to weigh in with your comments.

My third observation is to reiterate a point that was made explicitly in the Joint Forum's 2005 Report, well before all of the turmoil began: neither investors nor regulators should rely exclusively on credit ratings when evaluating the credit risk in a highly rated tranche of an ABS CDO. This may seem obvious to everyone now, but exclusive reliance on ratings has been all too common a practice. There is really no excuse for institutions that specialize in credit risk assessment – like large commercial banks – to rely solely on credit ratings in assessing credit risk.

Fourth, as a matter of basic risk management, the packagers of ABS CDOs should not retain large concentrations of super-senior tranches on their balance sheet no matter how low they perceive the risk. I think you can make a very good argument that the cause of the largest losses that brought so much pain to so many large firms was not so much that they grossly underestimated the risk of super-senior tranches of ABS CDOs; the fact is that nearly all market participants made this mistake. Instead, what most differentiated the companies sustaining the biggest losses from the rest was their willingness to hold exceptionally large positions on their balance sheets – which in turn led to exceptionally large losses. Indeed, in an originate-to-distribute business model, you're not supposed to hold on to large positions, and if the market forces you into that position, perhaps it's sending a signal about risk that very much needs to be heeded.

Finally, I believe the regulators need to reconsider the part of the Basel II capital rules that apply to senior tranches of re-securitized structured credit such as subprime ABS CDOs. While the Basel II framework recognized the greater systematic risk embedded in securitization exposures when compared to corporate exposures, we need to take another look to see if the differences that were incorporated went far enough. For example, should the securitization provisions of Basel II establish a unique set of higher risk weights for ABS CDOs and other re-securitizations, reflecting the higher vulnerability to systematic risk as evidenced by recent events?

In conclusion, I have only touched upon a few of the questions facing policy makers in the coming months, focusing on super-senior tranches of ABS CDOs. There are many others, and I believe it is our collective responsibility to learn from the current disruptions and take steps now to help prevent a recurrence of these problems in the future.

Thank you.