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HOUSING FINANCE REFORM: ESSENTIAL ELEMENTS OF A GOVERNMENT GUARANTEE FOR MORTGAGE-BACKED SECURITIES

HEARING

BEFORE THE

COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS UNITED STATES SENATE

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

ON

EXAMINING HOUSING FINANCE REFORM, CONCENTRATING ON THE STRUCTURE OF A GOVERNMENT GUARANTEE FOR MORTGAGE-BACKED SECURITIES

OCTOBER 31, 2013

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HOUSING FINANCE REFORM: ESSENTIAL ELEMENTS OF A GOVERNMENT GUARANTEE FOR MORTGAGE-BACKED SECURITIES

THURSDAY, OCTOBER 31, 2013

U.S. SENATE,
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS,
Washington, DC.

The Committee met at 10:05 a.m., in room SD–538, Dirksen Senate Office Building, Hon. Tim Johnson, Chairman of the Committee, presiding.

OPENING STATEMENT OF CHAIRMAN TIM JOHNSON

Chairman JOHNSON. I call this hearing to order.

I would like to thank our witnesses for joining us to explore one of the fundamental questions of housing finance reform, the structure of the Government guarantee for mortgage-backed securities.

I would like to commend Senators Corker and Warner and the cosponsors of S.1217 for recognizing in their bill that the housing market as we know it cannot function without a Federal backstop for mortgage lending. As we have heard in other hearings this fall, the guarantee must be explicit, appropriately priced, and stand behind private capital that is not guaranteed.

However, the details of how a new guarantee should be structured is paramount to a well-functioning national market. The Government guarantee in the current system ensures that qualifying mortgages are TBA eligible, which allows borrowers to lock in their interest rates and connects loans and MBS with investors from across the country and around the globe. If the structure of the new guarantee is not compatible with TBA execution, a wide range of stakeholders have expressed concerns that access to credit will tighten for borrowers, making mortgages more expensive, especially in rural and historically underserved areas. This outcome is unacceptable.

Determining who is willing to step in to take the first-loss position with private capital is also an important factor when considering the interaction with the TBA market and the stability of the future housing market. During the recent crisis, private capital pulled back and was unwilling to take credit risk except at an extremely high cost to borrowers. If a new system allows a variety of private capital participants, we must make certain that the new system is safeguarded against future boom and bust cycles, like that which recently occurred in the PLS market. It will be essential to create a system that protects taxpayers, but also does not create

so many inefficient layers that the mortgage market becomes too expensive for qualified borrowers.

In previous hearings, we explored how the PLS and multifamily markets function, and earlier this week, we examined solutions to improve the consumer's interaction with the mortgage market. The witnesses at each of these hearings recommended changes that would provide market efficiencies and better protect taxpayers. I look forward to hearing from today's witnesses about their visions for the future structure of the Government guarantee for MBS and how different structures would impact pricing and availability of credit.

This is a complex issue that has broad implications for both the guaranteed mortgage market and the PLS market. As I hope our aggressive hearing schedule demonstrates, Ranking Member Crapo and I are taking this seriously and moving with urgency. However, the housing market represents almost 20 percent of our economy. For the sake of families just getting back on their feet after the housing and economic crisis, we cannot afford to get the details wrong.

Senator Crapo, would you like to make an opening statement.

STATEMENT OF SENATOR MIKE CRAPO

Senator CRAPO. Yes, and thank you, Mr. Chairman. Today's hearing is another opportunity, an important one, to discuss the role of private capital in the context of housing finance reform.

Today, Fannie Mae, Freddie Mac, and Ginnie Mae back nearly 100 percent of newly issued mortgage-backed securities. Additionally, the Federal Reserve is supporting the housing market by purchasing $40 billion a month of mortgage-backed securities. Clearly, we need to move toward a more limited role for the Federal Government and bring private capital back into the housing market.

Several Members of this Committee have supported an approach that provides for a limited, well defined Government housing backstop. Senator Corker and Senator Warner are to be commended for the extensive work that they have done.

During Tuesday's hearing, I noted that if we are to consider housing reform options that include a Government guarantee, we must ensure that the taxpayer is standing only behind mortgages that meet strong underwriting standards. Also, we must ensure that there is adequate private capital taking the first loss at the security level if we are to avoid the future taxpayer losses similar to the bailouts of Fannie Mae and Freddie Mac, which required nearly $190 billion from the taxpayers.

S.1217 allows for the development of various private sector risk sharing mechanisms, including regulated bond guarantors, senior subordinated deal structures, and credit-linked note structures. Bond guarantors would maintain 10 percent of the capital against their insured bonds and would become insolvent before the proposed Federal Mortgage Insurance Corporation insurance would step in to cover losses. This would mean that the full resources of the guarantor would be available before reaching the Mortgage Insurance Fund.

Capital markets transactions also would be an option to facilitate private sources of capital to absorb first losses on covered securi-

ties. In those transactions, the bill states that the first-loss position must be at least 10 percent of the principal or face value of what is defined as a covered security for mortgage-backed securities transactions.

I am interested in the thoughts of today's witnesses on how these structures would interact with the "to be announced," or TBA, market. The TBA market allows investors the ability to limit their mortgage lending exposure by relying on the certainty of forward pricing on interest rates for home mortgages. And the liquidity provided by those investors helps to drive down the cost to homeowners. While not all available financing products must be TBA compatible, we should keep an eye on their interaction with the current TBA marketplace to ensure that enough options will be available to allow for this market to thrive.

The Federal Housing Finance Agency, FHFA, has already begun work on developing options for transferring credit risk to the private sector. The FHFA's 2013 Scorecard required that the Government-Sponsored Enterprises demonstrate the viability of multiple types of risk transfer transactions. The work of the FHFA in this regard has been encouraging and shows the market's appetite for owning the first-loss piece. The Freddie Mac STACR Deal and Fannie Mae's NMI and C Deals are important examples of how private capital can participate at a higher level in this market.

In addition to the private capital that would be held to take losses on covered securities, S.1217 would also create a privately funded Mortgage Insurance Fund modeled after the Federal Deposit Insurance Corporation's Deposit Insurance Fund.

I look forward to the witnesses' testimony on whether these forms of private capital adequately protect the taxpayer. Are we doing enough to protect taxpayers from losses? Are there lessons we can learn from the FHFA on how to bring private capital back into the market? What are the mileposts for building capital during the transaction? And I look forward to working with the Chairman, as he has indicated, and with the other Members of this Committee as we address these critical issues.

Thank you, Mr. Chairman.

Chairman JOHNSON. Thank you, Senator Crapo.

Are there any other Members who would like to give a brief opening statement?

[No response.]

Chairman JOHNSON. I would like to remind my colleagues that the record will be open for the next 7 days for additional statements and other materials.

Our first witness is Mr. Joseph Tracy, Executive Vice President of the Federal Reserve Bank of New York and Senior Advisor to the President of the Federal Reserve Bank of New York.

The Honorable Phillip L. Swagel is Professor of International Economic Policy for the University of Maryland School of Public Policy.

Mr. Michael S. Canter is Director of Securitized Assets at AllianceBernstein, testifying on behalf of the Securities Industry and Financial Markets Association.

The Honorable David H. Stevens is President and CEO of the Mortgage Bankers Association.

We welcome all of you here today and thank you for your time. Mr. Tracy, you may proceed.

STATEMENT OF JOSEPH TRACY, EXECUTIVE VICE PRESIDENT AND SENIOR ADVISOR TO THE PRESIDENT, FEDERAL RESERVE BANK OF NEW YORK

Mr. TRACY. Chairman Johnson, Ranking Member Crapo, and Members of the Committee, thank you for the opportunity to appear before you today.

My name is Joe Tracy. I work at the Federal Reserve Bank in New York. It is important for me to emphasize that my remarks today and the conclusions of the research that I will share with you represent my own views and are not official views of the New York Fed or any other element of the Federal Reserve System.

I commend the Committee for focusing on the elements necessary to constitute a robust housing finance system in the United States. By robust, I mean that such a system must provide for the uninterrupted flow of credit to housing markets, even in periods of market stress. In the wake of the financial crisis, significant progress is underway to improve the resiliency of financial markets. Nevertheless, we must plan ahead for the risk of future market stresses.

My coauthors and I have started with the observation that in the face of truly systemic housing shocks, Governments always intervene. It is not hard to imagine why. Given the importance of housing to Americans and to our economy, at some level of housing market stress, the Government faces intense pressures to take action. We cannot eliminate the risk that the Government may have to intervene, so we need to acknowledge that risk and establish a system to reduce and manage it or we will reinstate an implicit guarantee that puts the taxpayer at unacceptable risk. In my view, the private sector and the borrower must absorb all losses up to an agreed point, with the Government absorbing all further losses. The level at which the Government steps in must be well known in advance and credible to the market, meaning that there should be no speculation as to when and how the Government would intervene.

In addition, the Government must determine its exposure net of the loss absorption capacity provided by the private sector. The required private capital should be of high quality and should be determined relative to the total risk associated with a given set of mortgage underwriting standards. Now, this may sound complicated, but it is really not brain surgery. The Government should bear only the cost of extraordinary systemic risks and the private sector must bear losses associated with the normal business cycle. If this can be arranged, then the largest portion of the guarantee fee will be priced by the market and not by the Government.

Our research has explored the notion that the Government support would be triggered by the total losses across an entire group or vintage of mortgage-backed securities. Vintage-based support would likely only be triggered by a truly systemic shock. A vintage approach would also provide a transparent and finite maximum loss for the private sector to absorb, supporting robustness at the onset, during, and through the aftermath of a crisis. I believe that the costs of the recent devastating economic downturn would have

been far less to the taxpayer, and the housing market would have rebounded far quicker, had a vintage-based program containing adequate high-quality private capital been in effect.

Attracting private capital to finance residential real estate is another important consideration. Securitization backed by a predictable level of Government support has a useful function in facilitating the allocation of the different risks associated with mortgage lending to different sets of investors through the TBA market. I think the TBA market will be a key to ensuring Americans' continued widespread access to the 30-year fixed-rate mortgage.

The TBA market is also important to the role of small banks and lending institutions in a competitive housing finance system. Ensuring an easy, predictable path to securitization of standardized mortgage products is essential to making mortgage credit available throughout our country in traditionally underserved and rural areas and urban areas, and to all sets of current and potential homeowners, provided by financial institutions of different sizes and in different locations. A strong regulator whose primary focus is the housing finance system can also help ensure fair access to smaller institutions.

In summary, it is my personal belief that housing finance reform must incorporate an explicit Government backstop accompanied by significant sources of high-quality first-loss private capital.

Thank you for the opportunity to appear before you today and I look forward to the questions.

Chairman JOHNSON. Thank you.

Mr. Swagel, you may proceed.

STATEMENT OF PHILLIP L. SWAGEL, PROFESSOR OF INTERNATIONAL ECONOMIC POLICY, UNIVERSITY OF MARYLAND SCHOOL OF PUBLIC POLICY

Mr. SWAGEL. Thank you, Chairman Johnson, Ranking Member Crapo, and Members of the Committee. Thank you for the opportunity to testify.

I also see Government intervention as inevitable in housing, making an explicit guarantee preferable so that taxpayers are compensated for taking on this risk. Still, it is extraordinary for any private financial activity to have taxpayers come to the rescue of those who make bad investment decisions. The terms of the Government backstop should reflect this, that a guarantee, any guarantee, is simply extraordinary. My written testimony has a full discussion. I will briefly note some of the key issues in designing the guarantee.

The most important decision, by far, is the amount of private capital required to take losses before the guarantee kicks in. The first-loss private capital will both protect taxpayers and provide incentives for prudent behavior by industry participants with their own capital at risk. The capital should be at both the level of the individual loan, with downpayments and private mortgage insurance, and at the mortgage-backed security.

We learned in the crisis the importance of downpayments and the importance of individual homeowners having equity, so having considerable downpayments, I would say, is very important to protect taxpayers.

The 10-percent capital requirement in S.1217 is appropriate and essential. The existence of an explicit guarantee is a huge step for people concerned about bailouts, but a 10-percent requirement should provide considerable comfort regarding taxpayer protection. By way of comparison, the losses of Fannie and Freddie together were shy of 5 percent, though they would have been larger had the Fed not intervened in its various ways. So a 10-percent capital requirement, again, should give a lot of comfort regarding taxpayer protection.

Now, requiring private capital will translate into higher mortgage interest rates. The analyses I have seen say that this will be around 40 or 50 basis points for the average borrower. As we all know, the Fed can shift around interest rates by that much with a single statement, or, as we saw this summer, a single misstatement. And, of course, the Fed would use monetary policy to help lessen any negative macroeconomic impact of housing finance reform.

A simple way of thinking about the 10-percent capital requirement is that if a 5-percent capital requirement is a safe amount to protect taxpayers, then the incremental cost of going from 5-percent capital to 10-percent capital will be modest. After all, the capital position from the fifth percentage point to the sixth, to the seventh, on up to the tenth, is quite safe. So, if someone tells you that it is expensive to go from 5- to 10-percent capital, then they are really telling you that 5 percent is not enough private capital to protect taxpayers. It is not possible to have it both ways. It is not consistent to say that 5 percent is safe, but 10 percent is costly.

A suitably large capital requirement will also foster a diversity of sources of funding for mortgages, including more balance sheet lending and a revival of private label securitization, in addition to mortgages that continue to be packaged into guaranteed securities. I would say this change is desirable when today most new mortgages are backed by the Government, and yet too many potential homeowners find it difficult to obtain financing. With reform, private investors will take on the risks and rewards involved in housing finance. Now, the nonguaranteed mortgage-backed securities played an important role in the run-up to the financial crisis, but the regulatory regime has changed, notably with the advent of the Consumer Financial Protection Bureau, which has authority to address bad behavior by nonbank originators.

So with this in mind, I would say a revival of private label securitization is a desirable policy outcome, and ultimately, it should be seen as a policy success to have some mortgages that could receive a guarantee voluntarily choose not to obtain one.

I would also have the secondary guarantee kick in only after the entire private capital of the entities taking the first-loss position at the level of the mortgage-backed security. The Government would then cover the full principal and interest of guaranteed MBS. Such an arrangement would ensure that an event in which the Government pays out on the guarantee is both rare and consequential, where the shareholders of the failing firm will be zeroed out, investors and risk transfer will take losses, and management will be fired. This is the appropriate consequence of having the Government make good on the guarantee. Anything less, having the guar-

antee apply a vintage at a time or a mortgage-backed security at a time, will mean that the full consequences of failure do not operate.

A new housing finance system will both ensure that funding is available and protect taxpayers and the overall economy. An appropriately designed guarantee is an important element of such a new system.

Thank you again for having me participate.

Chairman JOHNSON. Thank you.

Mr. Canter, you may proceed.

STATEMENT OF MICHAEL S. CANTER, SENIOR VICE PRESIDENT AND DIRECTOR OF SECURITIZED ASSETS, ALLIANCEBERNSTEIN, ON BEHALF OF THE SECURITIES INDUSTRY AND FINANCIAL MARKETS ASSOCIATION

Mr. CANTER. Thank you. Chairman Johnson, Ranking Member Crapo, and Members of the Committee, thank you for the opportunity to testify before you today. My name is Michael Canter and I am a Senior Vice President, Portfolio Manager, and Director of Securitized Assets at AllianceBernstein, an asset management firm with $450 billion of assets under management. I am appearing here today on behalf of the Securities Industry and Financial Markets Association, a trade association representing hundreds of securities firms, banks, and asset managers.

SIFMA and its members' primary focus in considering reform of the GSEs is the preservation of the ability of secondary markets to support the 30-year fixed-rate mortgage. The 30-year fixed-rate mortgage is a stable and predictable way by which most Americans have historically financed their home purchases. Such 30-year mortgages, however, present significant risks to lenders. To manage this risk, lenders need access to a liquid forward market for mortgage loans.

Today, the to be announced, or TBA markets, serve this function, allowing mortgage originators to sell conforming loans before they are originated and enabling the originator to provide interest rate locks to borrowers well in advance of closing. Furthermore, the TBA market provides the necessary liquidity that enables a national market, whereby regional differences do not impact credit availability for borrowers in particular locations. In addition to the loan origination aspect, the TBA market provides an important benefit to investors, such as pension funds, 401(k) plans, mutual funds, State and local Governments, and global investors.

Today's hearing asks this panel to consider the essential elements of a guarantee. Homogeneity is what makes the TBA market succeed. This homogeneity is driven by two main factors, standardization of terms and the absence of credit risk. Terms are currently standardized through the GSEs' lending, servicing, documentation, and other guidelines. Credit risk is addressed through the implied but near explicit Government guarantee on the principal and interest payments of the mortgage-backed securities.

Thus, to truly preserve the advantages of the TBA market, it is essential that a Government guarantee provides timely payment of all principal and interest associated with the securities. Otherwise, the mortgage-backed securities would no longer be an interest rate

investment, but a credit investment, as well. A credit investment requires an entirely different investor base than the one that currently holds the $5 trillion of mortgage-backed securities guaranteed by Fannie and Freddie, and certainly, any change to this full guarantee would raise mortgage borrowing costs.

We believe that taxpayers should only be exposed to catastrophic or tail event losses in the newly envisioned mortgage finance system. Thus, private capital will need to take the first layer of risk of mortgage borrowers defaulting. We support an approach where the size of this first-loss layer fluctuates with the demand for mortgage credit risk. If constructed otherwise, the regime will tend to be procyclical and exacerbate booms and busts. But the most important factor in considering how to structure this risk to be taken by private capital is whether or not a particular approach will disrupt the critically important liquidity of the TBA market.

We view the recent risk sharing transactions executed by Freddie Mac and Fannie Mae, called STACR and CAS, as prime examples of how the capital markets can provide first-loss capital without disrupting the TBA structure. In essence, through these transactions, Freddie and Fannie have bought reinsurance, if you will, from the bond market and hedged their credit risk to borrowers defaulting. While these two transactions are just the start of the GSEs' risk sharing program, we believe they are an important part of the solution to the complex problem of how to bring private capital back into the mortgage market.

There are some market participants who have concern that there is not enough capital in the bond market to absorb the credit risk necessary to buffer taxpayers from loss. At AllianceBernstein, we are more sanguine about this possibility. The way we look at it is that the private label residential mortgage-backed securities market is approximately $850 billion in size, the overwhelming majority of which is rated noninvestment grade. Ten to 15 percent of this amount gets paid back to investors each year, and investors are looking for a way to reinvest. Thus, a whole market has now formed that holds noninvestment grade mortgage credit risk that simply did not exist pre-crisis.

Just as important, the marketplace has built up an enormous amount of intellectual capital, systems, and models to analyze mortgage credit risk. We believe that fixed-income investors across the globe will want to participate in this market, thereby spreading the risk across many market participants.

The benefit of this is not just the avoidance of concentrating risk in a small number of financial institutions, but also that fixed-income investors will price mortgage credit risk relative to other risks in the marketplace. Financial companies that can only take one type of risk do not have this flexibility. The price transparency that these risk sharing transactions will bring will help all market participants.

In conclusion, I want to thank you all for proceeding with this critically important reform effort. SIFMA and its member firms stand ready to assist you and your colleagues as you develop a more sustainable housing finance system. Thank you.

Chairman JOHNSON. Thank you.

Mr. Stevens, you may proceed.

STATEMENT OF DAVID H. STEVENS, PRESIDENT AND CHIEF EXECUTIVE OFFICER, MORTGAGE BANKERS ASSOCIATION

Mr. STEVENS. Thank you, Chairman Johnson, Ranking Member Crapo, and Members of the Committee. Thank you for the opportunity to testify today.

My name is David H. Stevens. I am the President and CEO of the Mortgage Bankers Association. I appreciate the opportunity to share MBA's views on how to ensure that the multiple objectives of secondary market reform can best be balanced, ensuring liquidity in the secondary market, providing mortgage products that borrowers want at a price that is competitive and protecting taxpayers from risk.

We are encouraged by recent legislative activity that has revived this policy debate on the future of Fannie Mae and Freddie Mac, including S.1217 offered by Senators Warner and Corker, and commend the efforts of the Chairman and the Ranking Member on thoughtfully working to create a comprehensive framework for the future of housing finance.

MBA believes a successful secondary market needs to produce a more stable and competitive system that benefits lenders and borrowers. The transition to an improved system must retain and redeploy key aspects of the GSEs' existing infrastructures, including certain operational functions, systems, people, and business processes. In order to prevent disruptions to day-to-day business activities of lenders and to ensure fair, competitive, and efficient mortgage markets for borrowers, any new proposal must be carefully phased in to protect the housing finance system from unnecessary disruptions.

With regard to the future structure of the secondary mortgage market, MBA believes a stable and successful system must include three key elements. First, an explicit Government guarantee for mortgage securities backed by a well-defined class of high-quality mortgages.

Second, protection for taxpayers through deep credit enhancements that puts private capital in a first-loss position with no institution too big to fail.

And, three, a fair and transparent guarantee fee structure to create an FDIC-like Federal insurance fund in the event of catastrophic losses.

The Government should provide quality regulation of guarantors and systems along with clearly defined but limited catastrophic credit backstops to the system. Without this Government backstop, the mortgage market would be smaller and mortgage credit would be much more expensive. This means that qualified low- to moderate-income households would have less access to affordable mortgage credit and be less able to achieve sustainable home ownership. The multifamily rental market, which predominately serves those with modest incomes, would also be adversely affected.

How, then, do we define where private risk taking ends and where Government support begins? In most proposals, private entities or capital structures are assumed to take losses up until the point that the entities fail or the structures are tapped out. The key question then becomes how much capital the entities need to

set aside to absorb losses, or, alternatively, how thick subordinate tranches within capital market structures need to be.

The answer to the question of how much capital should be set aside is not simple. First, there will always be uncertainty regarding precisely how much risk resides within a pool, vintage, or population of mortgages. Lenders, investors, rating agencies, and regulators have developed considerable information and analytics which can accurately gauge the relative risk of default and loss from mortgages within different characteristics. However, despite these accurate and precise estimates of relative default risk, it is more difficult to get a handle on the level of absolute risk, which must be estimated across a range of home price, interest rate, and economic scenarios.

So, what level of protection is enough? Private credit enhancers should have sufficient capital so that it is extremely rare that the insurance fund is called upon, and the insurance fund and associated premiums should be large enough that Government outlays would almost never be required. However, there is a cost to being too conservative. Requiring capital beyond the reasonable economic risk drives up cost, which would limit access to credit for borrowers and will distort market behaviors.

Congress should set broad parameters for the regulators to establish capital requirements and credit enhancement levels that are in line with regulatory capital standards for mortgages held by other institutions. For example, legislation should reference the most recent version of the Basel standards when instructing the regulator on proper levels of capital. In effect, Congress should establish a system where there is no opportunity for regulatory capital arbitrage. Regardless of who holds mortgage credit risk, regardless of capital type, the capital requirements should be relatively the same.

In addition to regulations around capital requirements, the regulation should also have rigorous criteria for approving lenders, servicers, credit enhancers, and other participants in the market. The regulator should also be an active supervisor with access to timely information that allows them to be able to make judgments about potential required actions to limit risk to either the insurance fund or the taxpayer.

A successful secondary market needs to be more stable and more competitive for all lenders, with greater protections for borrowers and taxpayers. The system should utilize familiar and operationally reliable business systems, processes, and personnel from the existing GSE model. And it is essential that any new system be accessible by lenders of all size and business models as a robust and competitive marketplace benefits everyone, including borrowers, taxpayers, and our industry.

I look forward to your questions. Thank you.

Chairman JOHNSON. Thank you all for your testimony.

As we begin questions, I will ask the Clerk to put 5 minutes on the clock for each member.

Mr. Stevens, what is the impact on homebuyers if the first-loss private-capital requirement for the guarantee is set too high, and should the requirement be set by legislation or by regulator?

Mr. STEVENS. Thank you for that question, Mr. Chairman. The impact that we are concerned about here is twofold, one, that it be very clear that the guarantee be 100 percent on the mortgage-backed security but that first-loss credit enhancement be provided by a deep level of private capital.

Setting a flat line standard in a legislative initiative concerns us only to the effect that it could create systemic distortions, the likes of which we have seen actually in the current model. With the GSEs holding only 45 basis points of capital compared to what private capital standards are, we have seen an unusual distortion where lenders sold off literally all of their risk to a Government guaranteed structure. So we all recognize that capital level has to go up.

The challenge to a flat line is that it does not take into account the risk-based measures within that structure of mortgages in a pool. Some mortgages, for example, at very high loan-to-values, at lower FICO scores, might actually require higher capital than would be proposed, say, in a 10-percent level, while other mortgages at lower LTVs, lower loan-to-values, with bigger downpayments and higher credit scores, might require less than 10 percent.

And so from that standpoint, we strongly recommend that the regulator be required in a very transparent way to set capital levels using econometric measures that take into account historical recessions and depressions and other variables when they account for the capital standards required ultimately in the mortgage securitization market and that it not necessarily be set as an explicit number in a legislative format.

Chairman JOHNSON. Mr. Tracy, your research recommends providing the Government guarantee to an entire group or vintage of MBS instead of to an institution or a single MBS, as proposed in legislation. What are the risks with the institution or single MBS approaches?

Mr. TRACY. Thank you, Chairman. I think the key question that we need to ask ourselves with any of these design approaches is how is that approach going to function in those rare events where the Government is acting upon that Government guarantee, so the market has basically been subject to a systemic shock? It is our view that the vintage-based approach is going to be more robust under those conditions of severe market stress and will be better capable of continuing to provide access to mortgage financing.

Our concern with some of the other approaches is that, again, by definition of a systemic shock, all insurers in other models are going to be facing the same types of pressure, and our concern is that you might run the risk of a collapse in the provision of mortgage credit under those circumstances. If that were to materialize, then it puts the Government back in a situation of do we need to somehow intervene to remediate that problem and, again, provide some alternative form of that mortgage credit.

So, we think the vintage approach is a little more robust in that very specific rare instance where the Government has to step in on its guarantee.

Chairman JOHNSON. Mr. Canter, you suggest that the design of the STACR and CAS deals is compatible with the TBA market.

How can S.1217 be improved to accommodate this from a risk taken?

Mr. CANTER. So, the advantage that STACR and CAS have is that Fannie and Freddie are sitting in front of the transaction. So they are sitting in front and they are simply ceding out the risk, passing the risk off to the capital markets. Within S.1217, it would be the financial guarantor that would have the risk and then they would pass it off.

And so what is important is that all the standards be the same across the financial guarantors, which they would as per the FMIC, but, you know, and that the regulations' infrastructure all is the same and so that when it is passed off to the marketplace, it is, in essence, perceived the same way as if Fannie or Freddie is being accepted into the marketplace now.

Chairman JOHNSON. Senator Crapo.

Senator CRAPO. Thank you, Mr. Chairman.

Dr. Swagel, in your testimony, you address the issue of adverse selection. You state that there is a concern that originators would seek to obtain the Government guarantee only on their riskiest loans, which, of course, then would result in the Government winding up insuring only lower-quality securities. How should we address that problem?

Mr. SWAGEL. Thank you. Adverse selection is a problem anytime there is a Government guarantee. Whether the capital requirement is 10 percent or 5 percent, you have the same problem with adverse selection. And the industry, of course, will want to have its riskiest loans covered by a guarantee. So it is critical to have a strong regulator, an independent regulator who maintains high underwriting standards. Ultimately, that is the basis for protecting taxpayers.

Senator CRAPO. Are there ways to make sure that any proposed Government backstop adequately takes that into consideration? How would a regulator do that?

Mr. SWAGEL. You know, in my mind, it is important to have these standards hard coded into the legislation. I think we all understand the pressures on the regulator will be in the direction of less capital and lower standards. And that is why I would have the capital requirement specified directly in the legislation, to avoid those sorts of pressures.

Senator CRAPO. All right. And, Mr. Canter, one of the ways that we can encourage private capital in the future housing finance system is to provide markets with certainty about how any proposed risk sharing will work in practice. The FHFA recently carried out a number of transactions designed to give a better sense of how the market might price risk in the future. What can we learn from the private market's response to these transfer transactions?

Mr. CANTER. I think we can learn that the market is very capable of measuring and taking mortgage credit risk. We estimated at AllianceBernstein that the expected loss on the STACR and CAS transactions ranged between 10- to 15-basis points cumulatively over a 10-year period. So, when you are thinking about a first-loss buffer of 10 percent, that is many, many multiples of that expected loss.

And so what is important is how that 10 percent is structured, because, in essence, what we learned is that everything above an

attachment point of, say, 1.5 or 2 percent, everything above that point is going to be considered investment grade. That is a big deal in the fixed-income markets, even still. Even after the crisis and everything that the rating agencies went through, it is still a big deal for the way we manage money. And so if everything above 2 percent is investment grade, it just opens up many, many more investors able to invest in the transactions.

And so you want to take advantage of that, and in order to do that, you have to make it so that bond investors around the world can invest, and that is the huge advantage of doing that as opposed to an insurance company model where the return on capital might be excessive because they want an equity return on capital as opposed to a bond return on capital.

Senator CRAPO. All right. And I think you already answered this, but moving forward, what are the mileposts we should be looking for to assure that markets are comfortable with the system?

Mr. CANTER. Well, certainly, the acceptance of the deals and how they are trading in the marketplace, you know, as we look to transition to a new system and how that system is actually constructed and what that transition looks like is going to be key. But, the continuation of these deals is important, how they are priced. Are Fannie and Freddie able to open up new markets? So, for instance, are they going to be able to actually transfer risk away from the bond market even and actually into the property and casualty insurance market, right, or reinsurance market as another outlet for this risk. So, the more places you are able to place this risk, the better and more resilient the private market capital system will be.

Senator CRAPO. All right. And, just quickly, the S.1217 framework has approved bond guarantors as well as capital market executions, such as senior subordinate structures and credit notes. Why is it important that we encourage these various sources of private capital?

Mr. CANTER. I think it is important because we do not actually know what the most efficient structure is going to be, and like Mr. Stevens mentioned, there are different FICO scores, different LTVs that are out there and we want to leave lots of room for those types of borrowers, as well. So, the more options as we go into a new system, the more options we have, the more chances we have of success and flexibility. I think the most important thing that is really in S.1217 is the flexibility that it offers for all of these different avenues.

Senator CRAPO. Thank you.

Chairman JOHNSON. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman, and thank you for this hearing.

I appreciate particularly the final comments of Mr. Canter about the flexibility in S.1217. I guess I want to make one comment before I get to questions. Mr. Stevens and I have had, we have had lots of conversations about S.1217. We understand your concerns on the capital number.

I guess I would point out, for those of us who want to make sure we maintain access for borrowers across the spectrum, that your notion that if you had a series of lower FICO scores with less quality loans, that you might require even more capital than 10 percent

for those kind of pools. I actually think that would mean that that would decrease the availability of those loans to get funded. You would, in effect, be segregating them into some kind of worse pool and could dramatically cut back access.

So, I do think Mr. Swagel's comments that if the 10 percent mark has been a bit overshot, that this kind of top-line standardization, that the sophistication of your industry, Mr. Canter, and others would be able to price that and tranche that appropriately, so if the number should be at four, five, six, or whatever, that that remaining capital would be priced at a lower level and we could then avoid the notion of kind of all the bad loans being lumped off and, consequently, not have access to the market that they have, I think, under our proposal or under the current system.

I guess I want to ask first—again, there are two questions I want to get at. One is, S.1217, we acknowledge that there are ways of trying to make sure we guarantee particularly smaller lenders, we try to get geographic diversity, we try to make sure that the Federal backstop is only in a catastrophic event, and again, I might mention that with the G fees, there is also a reinsurance fund that backs up even before we hit the taxpayer. But I guess—and I would hope you would all be able to say just yes or no on this—does the panel believe that the bond guarantors who, whatever amount of capital they put up, should all go out of business or be fully liquidated before you would ever tap into the insurance?

Mr. STEVENS. Absolutely.

Mr. SWAGEL. Yes.

Senator WARNER. Mr. Tracy.

Mr. TRACY. In that model, yes, but we prefer a different model. Yes.

Senator WARNER. Mr. Swagel.

Mr. SWAGEL. Yes.

Senator WARNER. Mr. Canter.

Mr. CANTER. My personal view is yes. There are disagreements among members of SIFMA on that.

Senator WARNER. Right, because they might be some of the institutions that might go out of business.

Mr. Stevens.

Mr. STEVENS. Absolutely. That is why competition in the model is extremely important. You would have multiple entities.

Senator WARNER. We tried to build that in.

I guess one of the things, going back to Mr. Tracy's comment, and we tried to stay—leave some flexibility on this, is we have got Mr. Tracy's notion of a vintage model, I think, that Senator Crapo—which kind of helps on the TBA market, which perhaps gets us more in terms of geographic diversity. Mr. Swagel, I think, wants to make sure we keep it at the guarantor level so there is more responsibility. Could you each, in my remaining minute and a half, pros and cons of vintage versus security level in terms of where the guarantee is.

Mr. SWAGEL. Sure. I will just say, the problem with the vintage approach is that failure is not consequential, right, or with a cooperative with vintages, there is a failure in a year, the executives stay there, the shareholders are fine. I mean, there is not the sort of—there should be fire and brimstone when there is failure. When

the Government has to write a check, really severe consequences should follow, and you cannot have that with a co-op that is a single co-op that is too big to fail. I think there are other ways to address this sort of a systemic risk. There has to be securitization, and in some senses, Dodd-Frank does that.

Senator WARNER. I am not sure, though, that—and I do not want to put words in Mr. Tracy's mouth—that it has to be a single co-op, but one of you speak to it. Mr. Tracy.

Mr. TRACY. No. We have never stipulated that it has to be one, although we would imagine that you would not have many. And, yes, while it is important to impose market discipline, our concern is in periods of a systemic shock and the sort of market stresses, whether or not all of these bond guarantors are going to be facing similar pressures. And the market discipline effect collectively might manifest itself as a restriction in the ability to supply mortgage credit. So, what we like about the vintage approach is that it is designed to help restart the system and make sure that these entities can continue to lend even after a systemic shock.

Senator WARNER. I have run out of time, but I would love to get—perhaps later, Mr. Canter or Mr. Stevens could give me their views on that.

Chairman JOHNSON. Senator Johanns.

Senator JOHANNS. Thank you, Mr. Chairman, and thank you to the panel for being here.

Let me, if I might, take a bit of a step back here. As you know, the House is working on a piece of legislation. The Senate has S.1217. I think the House concept envisions no backstop. Let me just go down the panel and ask, first of all, do you envision any possibility that you would have a workable system here if there were no backstop whatsoever? And I will just start with Mr. Tracy, and if you could keep your answers fairly quick, or fairly short. Mr. Tracy.

Mr. TRACY. I think the problem I alluded to in my statement was the credibility of that no backstop, and my suspicion is it would not be credible, so we would be back to an implicit guarantee. Also, it creates, then, credit risks that the investors have to manage, and I think that is an advantage of a backstop guarantee, is that you can basically sell securities to people who are only interested in managing the interest rate risk, not the credit risk.

Senator JOHANNS. Theoretically, at least, and I think practically, if you have a system where you have got the appropriate backstop, the whole idea is that you do not use it, but it is there and it is reassuring to the marketplace.

Mr. TRACY. That is correct.

Senator JOHANNS. Yes.

Mr. SWAGEL. So, I would agree with everything that Joe said, and I would just say, in the House bill, they still have the FHA as a guarantor, so they do have a Government backstop. It is more limited than in the Senate version.

Senator JOHANNS. Right.

Mr. CANTER. We do not think it would be workable without a Government guarantee. Under the presumption that it is important for the housing market to have 30-year mortgages and that mort-

gage availability is vital to the housing market, we do not think it is workable without a Government guarantee.

Senator JOHANNS. Yes. Great.

Mr. STEVENS. I would agree. And, Senator, to your point, if you keep the first-loss protection deep enough with private capital up front, to your point, it would be, obviously, the desired outcome would be a rare or never instance that the Government ever gets tapped to back that up. But the international global markets have confidence to buy those mortgage-backed securities because they know at least in a worst-case scenario, they have a counterparty they can depend on.

Senator JOHANNS. OK. Let me take that and jump right to some of your testimony, Mr. Stevens. You were talking about the whole idea of flexibility, and you are looking at a former mayor and Governor. I always said to Congress, give me flexibility. I do not like one-size-fits-all. So, I understand where you are coming from.

But having said that, here is what I worry about, and try to convince me why my worry is not justified. You could literally have a system that I think Senator Warner was alluding to, where you have a group of mortgages and poor credit scores and maybe in the part of the country that is not performing very well and a whole host of factors entering into that, and what worries me is that that category would almost be junk bond status.

Mr. STEVENS. Mm-hmm.

Senator JOHANNS. You could go to another area and you would have, you know, a good economy or wealthy people, big houses, great credit scores, everything is going right for them, and they get the triple-A treatment, if you will.

Mr. STEVENS. Right.

Senator JOHANNS. Am I missing something here?

Mr. STEVENS. No. This is, obviously, a complex problem that is difficult to answer in a hearing, but just to lay out some basic groundwork. So, FHA today is a flat-price model. The risk is priced the same whether you are the best credits or the worst credits, and we have seen what happened in that portfolio.

The other thing we are seeing today, Senator, is in the risk-based model, which is the way the GSEs are currently operating, they are actually doing very little high-risk mortgages. Seventy-five percent of all African American purchase borrowers got their mortgages through a Ginnie Mae mortgage in the last 2012 year, not through Freddie Mac or Fannie Mae. First-time homebuyers are getting their mortgages through a Ginnie Mae program. So, we are already seeing the impact in the current purchase market with a very deeply steeped curve of risk-based cost in the GSE model where the best credits and the lowest risk are easily being insured or guaranteed by Freddie and Fannie and everything else is being traded away.

The adverse selection occurs on the other side, as well, however. If you look at the private label market, those are the best credits——

Senator JOHANNS. Right.

Mr. STEVENS. ——the high credit score, lowest LTVs, highest net worth borrowers are also trading away. So, getting this balance right so that you do not create market distortions, I think that is

the difficult work that needs to be discussed as you move forward in your legislative process.

Senator JOHANNS. I have run out of time. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Merkley.

Senator MERKLEY. Thank you, Mr. Chair, and thank you, all of you.

I think the question I was pondering in my mind is a follow-up to, really, what Senator Johanns was raising, but maybe presenting a little bit different piece of it. If you have this variable capital standard based on downpayments and credit scores, I assume also under that formulation would be the amount of private market insurance you have incorporated, and I see a nodding head on that.

In that context, we have—Mr. Swagel has noted that he would like to see things hard-wired up front because of concern about pressures on regulators undermining the system. Is it possible to have the flexibility you are talking about and the hard wiring that Mr. Swagel is talking about? Are those two things really driving in different directions?

Mr. STEVENS. I will take a stab at this, Senator. The way we dealt with this in the past with the GSEs is to ensure that they had a duty to serve the system through affordable housing goals, and that was one way to encourage that activity. However, obviously, that is going to be a discussion that will ensue in this debate.

I do believe that if I look at the worst adverse selection that took place through interventions, it was at the FHA, where seller-funded downpayment assistance programs, for example, was a form of intervention that caused extraordinary harm to that portfolio, and had it not been there, the portfolio would have never gone negative. So I think we have reflection points in terms of the impact of too much interventions, as it were, into this form or structure, and so framing in the roles.

One of the advantages of the existing GSE structure, for example, and there are advantages and disadvantages, but one of the advantages is they are private companies. And so there was no, other than the goals, it was much more difficult to legislatively direct them.

So, getting this balance right, both in the flexible pricing model so that the Government and taxpayer does not get adversely selected with the worst credits, but also making sure that there is a structure that interventions are protected to a point where you do not create systemic risk in the market, these are the nuances that really have to be teased out, in my view, in this legislative process, because this is where getting it right or wrong is going to shift the markets, and we have seen it today in terms of what is happening. Again, when the GSEs' capital is only 45 basis points, it created a harmful outcome, and that is the part that I would love to follow up on and we would love to follow up on with the Members of this Committee.

Senator MERKLEY. Thank you very much.

Mr. Swagel.

Mr. SWAGEL. I have two quick thoughts. One is on the flexibility, and I think you got it exactly right, that the flexibility can be there, and one natural way to do it is to have an escape hatch in a crisis. During a crisis, private capital will be scarcer, or less willing to fund housing, so that is a macro policy decision, have the Fed Chair and the Treasury Secretary together say that the FMIC can adjust the amount of private capital and have the Government insurance, in some sense, expand, as it did in this last crisis.

The second point, on the flexibility, is about this adverse selection, and I think it is important to keep in mind that the loans inside the Government guarantee will still be under the QM standard, so that is pretty safe. Or, at least the industry has said that is safe. So it is kind of strange to have the industry say, well, 5-percent capital will give us no adverse selection, but 10 percent will, when there will still be QM loans. So I just—I think the adverse selection issue can be overstated with regards to the 10-percent capital limit.

Senator MERKLEY. Well, I think that point is pretty interesting in that, essentially, a piece we often do not talk about is a form of insurance, is that we have eliminated the liar loans, if you will—undocumented loans, a more formal term for it—and proceeded to really eliminate the teaser rate strategy and the steering payments that incentivize folks to steer people into high-risk loans. And all of that certainly provides a significant factor in the broader discussion here.

I was—your point made sense to me, Mr. Swagel, about the fact that if 5 percent is safe, then the cost of going to 10 percent should be very low. That certainly sounds like a very logical argument, but I had not heard it presented in that way. Does anyone disagree with that point or want to throw something else in there?

Mr. STEVENS. Yes. I would just reiterate that in the transactions we have seen from Fannie or Freddie, which are very much down the middle credit transactions, very good FICO, 60 to 80 loan-to-values, that it has been shown that, really, everything above a 2-percent type of level is investment grade. So that means maybe excess of 5 percent would be rated triple-A, and again, that opens up a lot of potential buyers.

Senator MERKLEY. Mm-hmm. Well, is that point, though, possibly consistent with the point Mr. Swagel made that, mathematically, the cost of that additional amount should be low, even if it is not necessary?

Mr. STEVENS. Could I just——

Senator MERKLEY. Yes, yes, please.

Mr. STEVENS. —quickly add that, keep in mind that the FMIC's guarantor program will not be the only outlet. Lenders, with their consumers, will choose best execution. And so under a Basel standard, Senator, just as an example, using an 8-percent capital requirement to hold whole loans at a 50-percent risk weighting, that is 4-percent capital for those mortgages. They will remain all of their best credit mortgages. My concern is not the 10 percent or the 5 percent per se. It is the relative adverse selection that will occur——

Senator MERKLEY. Yes.

Mr. STEVENS. ——as a result of having one out, two out of context with the other and having the FMIC ultimately inherit only the higher-risk mortgages because people have——

Senator MERKLEY. Yes.

Mr. STEVENS. ——the institutions have options.

Senator MERKLEY. Yes. The difference between different institutions.

Mr. STEVENS. Right.

Mr. CANTER. Could I just note that——

Senator MERKLEY. Yes, I will accept—let me just note, it is up to the Chair, because I am now over my time, so I will leave it up to the Chair as to whether we need to——

Chairman JOHNSON. One more response.

Mr. CANTER. Thank you. I just wanted to say, however, if the extra 5 percent, from 5 to 10 percent, if that capital was going to try to be raised from the debt market for corporations, meaning you have an insurance company that is looking to raise capital by issuing debt, that is a very, very different story. That would be inordinately expensive. It would not get nearly the same treatment as a risk sharing transaction.

Senator MERKLEY. Thank you.

Chairman JOHNSON. Senator Vitter.

Senator VITTER. Thank you, Mr. Chairman, and thanks to all our witnesses.

This discussion is certainly very important, so I thank the Chairman and Ranking Member for promoting it. I, quite frankly, think it should have happened a while ago. We are 5 years out from the crisis and all this was absolutely at the center of the crisis. So I think we should have attacked this head-on a while ago, but better late than never and I am eager to move from this discussion to a markup as soon as possible.

And in conjunction with that, I want to thank and applaud the work of many Committee Members, including Senators Corker and Warner and folks who have been working on their bill. I think that is a very, very strong and positive starting point. If we were at a markup today, I would support that starting point. But I really hope it is not eroded in any way, particularly with regard to key provisions like shielding the taxpayer from first losses between now and a markup. So, let me go to some of those issues in my questions.

Professor Swagel, in that bill, Section 204(e) prohibits entities taking the first-loss position from receiving Government assistance. Is that prohibition too broad or not, and if flexibility is added, is it not difficult to impossible to still be assured that you are really preventing the taxpayer from being in a first-loss position?

Mr. SWAGEL. Right. The consequence of failure should be severe, and that means no bailout, no assistance. The investors who make bad decisions should suffer losses, and only then should the Government write checks. So I would avoid that sort of flexibility, again recognizing that the Dodd-Frank bill has the kind of protections against systemic risk in Title II.

Senator VITTER. Right. So, again, you would support the language in 204(e) as it is, not put in that flexibility that some are pushing for?

Mr. SWAGEL. That is correct.

Senator VITTER. OK. Well, as you could tell from my earlier comments, I agree with you, and that is exactly the sort of retrenchment that I certainly hope does not happen between now and the markup.

We have touched on this, but again, some are suggesting that capital requirements in S.1217 are too high, and I have heard the arguments about adverse selection. Is anybody saying it is too high just in terms of being able to raise that capital, because I just point out that when the FDIC released a new leverage ratio that was due in a short amount of time, $100 billion, bank stocks went up the following few days. So I do not think the market was shaking in its boots over that. This is over a 10-year period.

Mr. STEVENS. I agree. I think the capital could be raised. I do not think that is the issue.

Mr. CANTER. I think it really depends on how the capital is raised. I think that if you were just going to strip out the financial guarantors and they were just financial guarantors and they kept all the risk, I think that the return on capital that the equity investors would want to make on that investment in those companies would be very high. You are talking double-digit types of returns on 10 percent. That is way too much capital to raise, OK.

But when you start using the securitization market and risk sharing transactions, that is when it becomes doable. You know, we are very bullish on the risk sharing transactions and their ability to fill that gap, but it is an unknown at this point.

Senator VITTER. OK. Anyone else on that point?

[No response.]

Senator VITTER. All right. If we open up the system to being capitalized by a greater variety of sources, in general, can we not bring in capital more quickly if we do that right—or more cheaply, rather, if we do that right?

Mr. STEVENS. Absolutely, Senator. I think that is exactly right. In exploring more forms of risk share options, whether it is structured front end, back end, pool, all of those will bring in opportunities for competition.

Senator VITTER. Anybody else on that point?

Mr. SWAGEL. I would just say that the initial risk sharing transactions are very small and they are costly, but as Fannie and Freddie scale up, there will be greater liquidity and the costs will go down.

Senator VITTER. OK. Thank you very much.

Chairman JOHNSON. I apologize for interrupting this hearing, but we have just reached a quorum and have two nominees that we need to quickly address. So, this hearing is in recess and I move the Committee into Executive Session.

[Whereupon, the Committee proceeded to other business and reconvened at 11:10 a.m.]

Chairman JOHNSON. Senator Warren.

Senator WARREN. Is it all right if I stay here, Mr. Chairman?

Chairman JOHNSON. Yes.

Senator WARREN. Thank you. Well, it is good to be here. As the Senator from Massachusetts, home of the World Champion Red Sox——

[Laughter.]

Senator WARREN. ——I have a few questions. I hope I worked that in subtly.

[Laughter.]

Senator WARREN. But, we have been talking about the 10 percent up-front first-loss money ahead of the guarantee and whether or not that part is right. But, the question I want to focus on is the back end, that is, when is the guarantee triggered, because I think that is also very important.

And we have two financing models that we have talked about in S.1217. One is the bond approach or mutual approach that you were talking about, Mr. Tracy, but the other is the structured transaction. And so what I want to focus on is the difference in trigger between those.

So, as I understand it, one would think in a structured transaction what we may be doing is every time any particular transaction runs beyond the 10-percent first-loss money, then the Government is in the position of writing a check, which would mean, if that is so, that the Government is in the position of writing checks long before there is any systemic risk, but really just backing up a bad deal.

The flip side of that is in a big bond approach or mutual approach, it is a long time before you see 10 percent of the first-loss money disappear, and that may mean that the Government is coming in only long after the market has begun to crater and we have serious systemic problems. So, I think of this kind of like a Goldilocks problem, too hot or too cold in terms of the Government intervention.

So, the first question I want to ask is about how we get the dial between those two, is there a way to do it, and then go to the implications of that.

Mr. Stevens, you were nodding. Would you like to comment on that?

Mr. STEVENS. Well, I think you are raising an important point, and at the highest level, we agree with your premise, and that is why having various types of options in place for the credit enhancement component, you know, to keep in mind before the Government, the taxpayer, gets affected by this, you have the borrower's equity, you have the first-loss credit enhancement, and then you have the guarantor who is there, and then, finally, you have the Federal fund at the regulator level. So, all of those have to be pushed through in order to ultimately get to a loss to the taxpayer.

Senator WARREN. Right, which is just a way of saying, we hope we are never going to be there.

Mr. STEVENS. That is right.

Senator WARREN. But when you sit on this side, you have got to write the law in the fear that we are going to be there someday.

Mr. STEVENS. That is right.

Senator WARREN. That is the point here. So, the question is, what is the right trigger? Should we be backing up every deal?

Mr. STEVENS. I think, ultimately, the backstop on—we have to separate the backstop on the MBS itself versus how we structure the credit enhancement within the transactions themselves, and I think keeping that dialog separate is important, right. So the 100-

percent guarantee on the mortgage-backed security for whatever framework of loans are allowed for within this new guarantor model, that will frame in the size and scope that the Government's role plays in this new entity.

But once you get past that, we think there needs to be a variety of competitive structures on the credit enhancement model itself. So, it cannot do just solely senior substructures, for example, in this new model. We think there needs to be multiple entities, as well, because a single entity can create this too big to fail approach in the cooperative model.

Senator WARREN. So—and I am still trying to work through that, because I certainly understand—that is why I said it is a too hot, too cold problem. I understand that part of the problem. But here is my concern. I do not know how these things can exist in the same universe in the sense that if I were an investor and I knew that investing in structured transactions would get a quicker trigger in terms of when the Government has to pay, then those will be priced differentially, right?

Mr. STEVENS. I do not think so——

Mr. CANTER. There is no——

Senator WARREN. Everyone will bleed in one—you do not think they will go that way?

Mr. CANTER. There is no reason for the Government to pay anything on a structured transaction until the capital of the financial guarantor is wiped out.

Senator WARREN. Well, I get that, but that is the question we are asking.

Mr. CANTER. So, on a deal-by-deal basis, let us say on one deal, a financial guarantee company sells off 10 percent of the risk, the bottom 10 percent, OK.

Senator WARREN. Right.

Mr. CANTER. Well, investors take that risk.

Senator WARREN. I get that.

Mr. CANTER. Well, let us say the risks get to be 20 percent. Well, the financial guarantee company is going to have to pay the 10 percent in excess of the first 10 percent, not the Government, OK. The Government would only kick in if all of the capital for the financial guarantee company were wiped out.

Senator WARREN. No, I understand that, but the question is, you have got differential points at which the Government kicks in if the trigger is by transaction or by structured deal versus if it is a mutual pool, and this is what Mr. Tracy was going to——

Mr. TRACY. Yes.

Senator WARREN. ——when he was talking about the vintage question. But the point is, they trigger differently, which means—I will put it this way. If they are priced the same, then the market will show us which one is giving a better deal for investors.

Mr. Tracy, did you want to comment, and I am now out of time, so I——

Mr. TRACY. So, the key to the investor is they know that they are facing no credit risk.

Senator WARREN. Yes.

Mr. TRACY. And so that is important. The virtue of the vintage effect is that there is no uncertainty as to the amount of losses that

the utility is going to take before the insurance kicks in, and then, importantly, those losses cannot spill into prior vintages, and so the capital that is being freed up from those vintages as they pay down is available for new lending, nor can those losses spill forward so that the guarantee fees on the new loans also will not need to be used to pay back any of those losses. So, this helps to support, I think, lending going on even after a vintage may trigger.

Now, what the threshold is depends on, again, how frequently do we think, or what circumstances do we want to call a systemic event? But I do believe that the optics are important. It is really helpful if the Government is only paying out in a systemic event, not if a particular security went bad, not if a particular issuer went bad.

Senator WARREN. So, I understand the point, and I will just stop by saying I get this. The question is whether or not these can all exist simultaneously or the market will drive away from, in effect, the mutual pool. All of this, it seems to me, affects the pricing of the insurance and, ultimately, the regulatory oversight, which would be very different in a pool than it would be, for example, in structured transactions.

So, thank you, Mr. Chairman. Thank you for your indulgence.

Chairman JOHNSON. Senator Corker.

Senator CORKER. Mr. Chairman, thank you, and thanks for having this series of hearings. This is a complex topic and I think, obviously, it gives everybody an opportunity to ask complex questions. If mine are redundant, I apologize. I have been in another hearing.

But I would like to ask Mr. Swagel and Mr. Stevens to talk a little bit about the fact that one of the ways we are looking at reforming GSEs is through a bill, S.1217, that a lot of members up here have been a part of, and I think each of you have opined about. But one of the things that has been such a problem is that Fannie and Freddie not only add credit to the deals, but they also compose all of the plumbing that takes place, which really makes them, if you will, essential to the marketplace and, no doubt—I hate using this word, I am so tired of it—but certainly too big to fail, because without them, you do not have the plumbing.

One of the things that S.1217 seeks to do, and many others have looked at in different ways, is to separate that credit enhancement from the plumbing itself, creating a much more dynamic situation, and I wonder if the two of you might comment on that.

Mr. SWAGEL. Maybe I will start. I think it is really important in terms of this. This is one of the most desirable features of S.1217, is the entry and competition. We see today the negative effects of insufficient competition in mortgages, right. Too many people do not have access and interest rates are too high for many people. And this sort of entry and competition, let others come in, will both help homeowners and address this too big to fail problem.

You know, one key element to that is having the common securitization platform so that a new entrant can compete on equal grounds with, whether it is Fannie or Freddie or large institutions. So that is a key element in having the competition.

Mr. STEVENS. And, Senator, I completely agree with your point and what Phil said, is we believe a common utility for

securitization clearly eliminates the dependency on any single guarantor institution for that process, and I think another variable benefit for regulators and for policymakers is you get far greater transparency, both to the regulatory community and to the markets. We already see the challenges today between data from Freddie Mac and Fannie Mae and how it is released and the lack of cohesiveness between the two ways they release data. Having a single utility that could be accessible by all institutions, large and small, bank and nonbank, eliminates that dependency and it creates greater transparency in the marketplace.

Senator CORKER. Thank you both.

Mr. Swagel, there has been some debate about when, under S.1217—and again, I just keep referring to that because I know there have been a lot of discussions about it—but the way S.1217 is now constructed, a bond guarantor would have to go insolvent prior to any kind of FMIC guarantee kicking in. I know there have been some folks who have said that is not workable. I just wonder what your comment might be in that regard.

Mr. SWAGEL. I would say it is both workable and appropriate that the Government should not be writing checks, that the guarantee should activate only in an extreme situation, and in between, as markets deteriorate, well, of course, the Fed will be taking action. Congress can take action, as well. But the guarantee should be there only for the extreme situation.

Senator CORKER. And, I guess, just to sort of tease that out, there have been people who have said, what we really ought to do is each grouping, if you will, of securities, if one of those fails, it should kick in. But— and I do not know if anybody else wants to comment on this— to me, to have it only kick in when an entity that is guaranteed becomes insolvent means that the strength of these guarantees has to be really there, whereas with the other, certainly, you could have much weaker bond guarantors participating in it. Would that be true or false?

Mr. SWAGEL. No, I agree with that, and I think the capital is there. I mean, there is a search for yield and this is good origination and people should be willing to take on this housing credit risk.

Mr. CANTER. I would just add that the financial guarantees, by their very nature, are going to be extremely highly correlated, and so when one is failing, it is going to be highly likely that the others are going to be under the stress, as well, and that complicates the problem of what is the housing market going to look like then.

Senator CORKER. Any other comments on that?

Mr. STEVENS. I agree with the premise, Senator, and, as a matter of fact, there should be early warning signs so that you know when an institution is close to failure so you can be prepared to transition any risk to one of the other entities in order to keep the markets functioning.

Senator CORKER. Thank you very much.

I am going to ask Mr. Swagel this question and not Mr. Stevens, based on what I heard he might have said earlier today in testimony. But, you know, some people are trying to correlate the 10-percent capital issue that we are talking about right now relative to S.1217 and FMIC, or the bond guarantors, or, candidly, credit-

linked notes or AMBPs or whatever it is, with bank capital, and I would like for you to, if you would—people are saying, well, bank capital is different and, therefore, loans are going to flow in a particular direction. Would you like to editorialize on that, if you did not in your opening comments?

Mr. SWAGEL. Sure, and I did not say this in my opening comments. Banks have a 4-percent capital standard, but they also have a much more burdensome regulatory regime. There are capital surcharges for large banks, liquidity requirements, FDIC deposit premiums, and so on. So, 4 percent in securitization would not be the same as the bank standard.

The other thing I would editorialize on is to say I think it is good to have an incentive for lending not to be done through the guarantee. We want a diversity. We want more balance sheet lending. So a high capital requirement for securitized guaranteed lending would lead more lending back onto balance sheets. I think that is a fine thing.

Senator CORKER. Right. Mr. Chairman, I know my time is up. I do want to thank these witnesses, and, Mr. Chairman, I had a pretty energized discussion with one of the witnesses earlier this morning. Look, the housing industry is a big part of our Nation and I know that we need to get this right. At the same time, people make a lot of money off this and make a lot of money off the fact that the Government, candidly, takes a lot of risk for them. I do look forward to working with you and all of the witnesses that are here today to try to come up with the right balance. I hope we can do that soon. But, again, thank you for having this hearing and I thank each of you for testifying.

Chairman JOHNSON. Senator Manchin.

Senator MANCHIN. Thank you all for being here, and thank you, Mr. Chairman, for holding this.

I have a problem with the guarantees. I always have had a problem with the guarantees. When I was Governor, I used to sit there and watch the taxpayers of West Virginia take all the risk and someone else get the uptick. It never made any sense to me. We do not do that in the real world, and the business world does not work that way, but yet when the Government steps up to the plate and underwrites everything, you see a lot of things floating back and forth that normally would not float in a normal market.

I guess what I would ask any of you, and, Mr. Swagel, maybe we will start with you again because you have been pretty outspoken about this, and I appreciate it, but the bottom line is, you think it will disrupt the markets. Do you think, are we going to harm or hinder the markets? Everything I am hearing you say is you think it is going to be more diversified. There will be more people that are going to benefit than will be harmed.

And for the naysayers that say, oh, wait a minute, we cannot operate without Fannie and Freddie, well, if you have been raking in the unbelievable profits that have been out there for some people with the Federal Government and the taxpayers of this country underwriting all the risk, I understand why you would be upset. We have disrupted your model, if you will. Give me if I am missing something here.

Mr. SWAGEL. I agree. The old model was broken and had the——

Senator MANCHIN. Well, we are still in conservatorship, right?

Mr. SWAGEL. And we are still in it. We are still——

Senator MANCHIN. So, no matter how well they might tell you they are doing——

Mr. SWAGEL. Yes. There still is——

Senator MANCHIN. —we are still in trouble.

Mr. SWAGEL. —capital.

Senator MANCHIN. OK.

Mr. SWAGEL. I think that the new system will work and will benefit people. There has to be a transition. We do not want to go from zero capital to 10-percent capital instantly, but we will do that over time and we will buildup to it. There will be an impact on interest rates, but it will be very modest, in my view, and the new system will open up capital to many people who are outside of it now.

Senator MANCHIN. Right. I mean, if I was taking the risk, I would go right to Fannie and Freddie.

Mr. SWAGEL. Yes.

Senator MANCHIN. And that is where they have been going. So that makes it very logical. But now, I might have a chance for someone to say, you have got a pretty good model there. I might go with you.

Mr. SWAGEL. I would want private investors to take a risk on——

Senator MANCHIN. Well, let me ask you about S.1217. Any of you all can answer this, if you will. But I know that most of the Committee has signed onto the bill and everyone is looking at some way to make it a little bit better. What can you do to give us some direction of what we could do to modify it? If you see something in S.1217 that would help it, to enhance it, and we will start, Mr. Stevens, with you.

Mr. STEVENS. Thank you, Senator. And I want to be very clear. I and the MBA strongly advocates the winding down of Fannie Mae and Freddie Mac. There are absolutely unacceptable distortions in the current business model. They are undercapitalized at 45 basis points. That should clearly be higher. We have advocated something ten times that amount, or greater, depending on how the discussion goes.

And I applaud—we applaud the work done on S.1217, without question. We have provided a lot of feedback to the authors as well as staff on an ongoing basis and we think there is—it is clearly, whether it is acknowledged or not, it has become the baseline text, as is acknowledged by the discussion here today. Very much looking forward to what the leadership introduces in the final bill.

I think, at this point, we are talking about complexities such as issuer guarantor models versus securitization models, construct of the form of the credit enhancements, and these are things that we would provide ongoing feedback on. I am not sure it would be as helpful to go through those here today, but there is a lot of good in that structure that can be clearly used in a—and it is hopefully something that gets implemented in the Committee, or introduced in the Committee.

Mr. TRACY. So, Senator, I might just mention, I think it is important, given the complexities that we have been talking about, to keep a degree of humility in terms of our ability to design, in some sense, an ideal system. And this really suggests that we take an

incremental approach, an approach that is conservative at the outset, and then as we gain experience, you can try to sort of expand the approach itself. And so in particular on things like the underwriting standards and the credit box, I would start, again, with a more conservative approach and then expand it as we get more information. But I do think we need to be humble about our ability to anticipate every aspect that we may—any of these designs may be faced with. So we want to be able to build in some learning as this process is rolled out.

Mr. CANTER. I think it is important to leave a lot of flexibility for the regulator to react to how that transition is taking place.

Senator MANCHIN. Sure.

Mr. CANTER. The other thing I would mention is that the bill in the House has an aspect that we like, which is that it has a prohibition on eminent domain. Eminent domain is where a municipality could use that power to take a mortgage, and I think that that would be extremely harmful to any type of outlet of private label securities. And so a mention of that, I think, would be——

Senator MANCHIN. Just very quick, if I may, Mr. Chairman, do any of you—and you can give a very quick yes or no—believe that the 10-percent deductible should be modified? Too high? Too low? Just real quick, and just start right down.

Mr. STEVENS. We think there is room for discussion on that subject.

Senator MANCHIN. OK.

Mr. CANTER. I think it depends a lot on how that 10 percent is funded.

Senator MANCHIN. I have got you.

Mr. SWAGEL. I think it is appropriate, but I agree with Michael that it has to be done right. But it is appropriate.

Mr. TRACY. And, as I have stated, it depends on the credit box and all the other dimensions.

Senator MANCHIN. I have got you. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Reed.

Senator REED. Well, thank you very much, Mr. Chairman, and gentlemen, thank you for your testimony, and not only your testimony but the work you have done over many years to help us understand the issues and come up with some concrete proposals. Senator Warner and Senator Corker have done, I think, a superb job in trying to get this process moving forward. Now the Chairman and Ranking Member are taking it and I commend them for their activities.

But, Mr. Stevens, we have been going back and forth, the 10 percent, 5 percent, 10 percent. I think everyone can see that raising the capital is—it is certainly feasible. But you have suggested there are some unintended consequences of operating at the 10-percent level. Could you—and I know you mentioned them before, but could you sort of list them as specifically as possible.

Mr. STEVENS. Senator, I wish I could draw it on a chart, but I——

Senator REED. That would help us.

Mr. STEVENS. Well, and I will provide that as a follow-up, some feedback.

I want to be very clear that we clearly acknowledge that the capital levels of the GSE structure are ridiculously low and it has created adverse outcomes to the markets. We know that. The question is, how do you get it right in such a way that the future system ultimately does not create another set of distortions.

Credit is spread across geographies, across downpayment, FICO credit scores, borrower profiles, products, et cetera, and so when you set a flat capital standard, the true cost of capital in any loan, depending on where it crosses in the spectrum, to have a flat line, hard line capital standard when credit is nuanced across a spectrum could ultimately create some adverse selection.

I have heard other comments to the fact here in the panel, but I know for a fact that institutions have options. They do what is called best execution. We call it Best X. We talk about it all the time. You have options to hold, sell, securitize, or other investors in the marketplace. The goal here is to create a system that is absolutely safe and sound, that puts the Government only in the absolute worst case catastrophic position and the capital standard has to go up. If it goes up too far, the distortion will shift the other way, where institutions will retain or sell away to other sources the absolute best product and this FMIC will then be perhaps undercapitalized because they framed in the box too narrowly as a result.

And I think that is an opportunity, to the degree that we can be helpful, we would love to talk about other ways to get there that hopefully could satisfy the broad set of stakeholders.

Senator REED. Let me just follow up with a question, and that is that at times, we have to restrain the market. We saw that in 2006, 2007, et cetera——

Mr. STEVENS. Right.

Senator REED. And we didn't because the capital for Fannie was statutorily 1 percent, because we could implore them, but they could say, no, we do not have to do anything like this, et cetera. And then there are other times when, frankly, it is in our best interest economically to try to encourage the housing market.

Can I conclude from your comments that this flat sort of level, if we pick a flat level, will not give us policy tools to either restrain or support, or am I missing the point?

Mr. STEVENS. No, I think that is generally right. The one thing that S.1217 does have in it is a provision to change the capital standard in a recession. So I think that was a smart addition.

But I would say this, Senator, is legislating these numbers may be locking in to a position where a regulator could do a better job if they were required to be transparent, use econometric modeling, use the data elements of the loans that are being distributed, and make certain that the catastrophic position of the Government is never breached. And so the question is, do you legislate the capital standard or do you set framework in place that the regulator must be obligated to follow in order to protect the U.S. taxpayer.

Senator REED. Just my reaction is that there was a statutory capital limit, I believe, of 1 percent for Fannie and Freddie, as I recall.

Mr. STEVENS. Right, which is too low, though.

Senator REED. Much too low, but also, it allowed the entities to always argue with the regulator that they were doing them a favor by raising more capital because the law only required 1 percent.

So I think your point is well taken about whether this should be flexible with regulation, good regulation, or statutory. It is harder for us to change things around here. You might have noticed.

[Laughter.]

Senator REED. My time is rapidly expiring, and Mr. Canter, I am tempted to jump into the TBA market, which you talk about arcane issues, but I do not have to tell you. This is what you do. It is the futures market that allows, basically, mortgages to be sold before they are technically originated and it locks in prices. It is the way we operate today. And I think your testimony suggests that there might be some problems with the current proposals with respect to the TBA market. Could you very quickly, because my time is expiring, give us a glimpse?

Mr. CANTER. Well, I think what is important is that if we are going to have financial guarantors that are also going to be, in essence, guaranteeing the security, that if they were to miss a payment but yet they are still solvent, the Government will need to make that payment, and it needs to be clear to the market that the Government will make that payment.

So, if you are targeting the same investor base as we have today, that own Fannie-Freddie wrapped securities, it needs to be clear that we do not have to worry about the ability or the willingness of a financial guarantor company to make an interest or principal payment.

Senator REED. And that—is that implicit in the legislation that we are talking about today, or is that something we would have to make clearer?

Mr. CANTER. I think it should be clearer.

Senator REED. Clearer. And that raises kind of the issue, sort of a big macro issue, of it looks like we are sort of making—the Government is making up for the miscues of the private sector on a regular basis, which is not a very popular position anywhere.

Mr. CANTER. Well, I think, given the enormous power that FMIC would have over that financial guarantor, I think it is highly unlikely. But, nonetheless, it would be important to state it.

Senator REED. Thank you. Thank you, gentlemen. Thank you, Mr. Chairman.

Chairman JOHNSON. Thank you all, our witnesses, for being here with us today. I want to thank Senator Crapo and all of my colleagues for their continued dedication to housing finance reform.

This hearing is adjourned.

[Whereupon, at 11:37 a.m., the hearing was adjourned.]

[Prepared statements supplied for the record follow:]

PREPARED STATEMENT OF JOSEPH TRACY

EXECUTIVE VICE PRESIDENT AND SENIOR ADVISOR TO THE PRESIDENT, FEDERAL RESERVE BANK

OCTOBER 31, 2013

Chairman Johnson, Ranking Member Crapo, and Members of the Committee, thank you for the opportunity to appear before you today. My name is Joe Tracy. I work at the Federal Reserve Bank of New York. Today I will be discussing research[1] in the area of Government support for housing finance that colleagues and I at the New York Fed have conducted. It is important for me to emphasize that my remarks today, and the conclusions of the research that I will share with you, represent my own views and are not official views of the New York Fed or any other element of the Federal Reserve System.

I commend the Committee for focusing on the elements necessary to constitute a robust housing finance system in the United States. By "robust" I mean that such a system must provide for the uninterrupted flow of credit to housing markets even in periods of market stress. In the wake of the financial crisis, significant progress is underway to improve the resiliency of financial markets. Nevertheless, we must plan ahead for the risk of future market stresses.

My coauthors and I have started with the observation that in the face of truly systemic housing shocks, Governments always intervene. It is not hard to imagine why: given the importance of housing to Americans and our economy, at some level of housing market stress, the Government faces intense pressure to take action. We cannot eliminate the risk that the Government may have to intervene. So we need to acknowledge that risk and establish a system to reduce and manage it, or we will re-create an implicit guarantee that puts the taxpayer at unacceptable risk.

In my view, the private sector (and the borrower) must absorb all losses up to an agreed point, with the Government absorbing all further losses. The level at which the Government steps in must be well known in advance and credible to the market, meaning that there should be no speculation as to when and how the Government would intervene.

When should the Government intervene? If markets believe that the Government will intervene sooner than it claims, then this will generate uncertainty, and financial markets will speculate on the timing and nature of the intervention. This uncertainty could have a destabilizing effect, leading to higher losses that the Government would ultimately have to absorb. A Government guarantee that is unclear or not credible, even if it is explicit and priced, will result in greater costs to the Government and, ultimately, the taxpayer.

What should parties pay the Government for its willingness to intervene? In my view, the Government must determine its exposure net of the loss absorption capacity provided by the private sector. This includes evaluating the counterparty credit risks generated by any risk-sharing transactions. Risk-sharing must require a payment of cash from the private sector and oversight of the capital and overall risk profile of any participants in risk sharing. Of course, the required private capital should be of high quality and should be determined relative to the total risk associated with a given set of mortgage underwriting standards. This may sound complicated, but it is not brain surgery. The Government should bear only the cost of extraordinary systemic risks and the private sector must bear losses associated with the normal business cycle. If this can be arranged, then the largest portion of the overall guarantee fee will be priced by the market and not by the Government.

An important design decision for a housing finance system is whether the Government backstop will apply directly to mortgage-backed securities, their issuers, or some other legal entity. An institution-based program could erode private sector discipline, while a security-based backstop would pick up the idiosyncratic and cyclical risks that are better left to the private sector. Seeking to balance these concerns, I have explored the notion that Government support would be triggered by the total losses across an entire group or "vintage" of mortgage-backed securities.

Vintage-based support would likely only be triggered by a true systemic shock. A vintage approach would also provide a transparent and finite maximum loss for the private sector to absorb, supporting robustness at the onset, during, and through the aftermath of a crisis. I believe that the costs of the recent devastating economic downturn would have been far less to the taxpayer, and the housing market would have rebounded far quicker, had a vintage-based program containing adequate high-quality private capital been in effect.

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[1] *http://www.newyorkfed.org/research/staff_reports/sr644.html*

Attracting private capital to finance residential real estate is another important consideration. It is difficult for institutions that depend on short-term funding to take long-term interest-rate risk for example, the long-term interest-rate risk posed by 30-year fixed-rate mortgages. It is also difficult for investors who do not do the underwriting themselves to take long-term idiosyncratic credit risk. Securitization backed by a predictable level of Government support has a useful function in facilitating the allocation of these different risks to different sets of investors through the To-Be-Announced or "TBA" market. I think the TBA market will be key to ensuring Americans' continued widespread access to the 30-year fixed-rate mortgage.

The TBA market is also important to the role of small banks and lending institutions in a competitive housing finance system. Ensuring an easy, predictable path to securitization of standardized mortgage products is essential to making mortgage credit available throughout our country—in traditionally underserved rural areas and urban areas, and to all sorts of current and potential homeowners, provided by financial institutions of different sizes in different locations. A strong regulator whose primary focus is the housing finance system can also help ensure fair access to smaller institutions.

In summary, it is my personal belief that housing finance reform must incorporate an explicit Government backstop accompanied by significant sources of high-quality first-loss private capital. Thank you for the opportunity to appear before you today. I look forward to your questions.

Federal Reserve Bank of New York
Staff Reports

The Capital Structure and Governance of a Mortgage Securitization Utility

Patricia C. Mosser
Joseph Tracy
Joshua Wright

Staff Report No. 644
October 2013

This paper presents preliminary findings and is being distributed to economists and other interested readers solely to stimulate discussion and elicit comments. The views expressed in this paper are those of the authors and are not necessarily reflective of views at the Federal Reserve Bank of New York or the Federal Reserve System. Any errors or omissions are the responsibility of the authors.

The Capital Structure and Governance of a Mortgage Securitization Utility

Patricia C. Mosser, Joseph Tracy, and Joshua Wright

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October 2013
JEL classification: E02, G01, G21, G28, G32

Abstract

We explore the capital structure and governance of a mortgage-insuring securitization utility operating with government reinsurance for systemic or "tail" risk. The structure we propose for the replacement of the GSEs focuses on aligning incentives for appropriate pricing and transfer of mortgage risks across the private sector and between the private sector and the government. We present the justification and mechanics of a vintage-based capital structure, and assess the components of the mortgage guarantee fee, whose size we find is most sensitive to the required capital ratio and the expected return on that capital. We discuss the implications of selling off some of the utility's mortgage credit risk to the capital markets and how the informational value of such transactions may vary with the level of risk transfer. Finally, we explore how mutualization could address incentive misalignments arising out of securitization and government insurance, as well as how the governance structure for such a financial market utility could be designed.

Key words: GSE, MBS, mortgage finance, cooperatives, financial market utility

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In a previous paper, we proposed a utility structure for the securitization of high-quality, standardized residential mortgages as a replacement for the securitization infrastructure currently run by the housing GSEs, Fannie Mae and Freddie Mac.[1] Using the approach of "keep what worked and change what didn't," the design of the utility was driven by several broad principles for reforming the residential mortgage finance system: more robust and sustainable credit access throughout the cycle, appropriate pricing of risk across the participants in the financing chain (borrowers, lenders, securitizers, investors, and the government), and clear separation of affordable housing programs. Three elements important for appropriate pricing are: explicit and priced government reinsurance for tail risks, greater alignment of incentives to prevent deterioration in underwriting *ex ante*, and more capital to absorb losses *ex post*. We preserve three beneficial aspects of the current system, which are "skin in the game" for originators and securitizers, standardization to exploit economies of scale, and the liquidity benefits of the TBA market for agency mortgage-backed securities (MBS).

Applying these principles led us to propose a utility that both securitizes and guarantees standardized mortgage products – that is, a securitization platform with an in-house insurance function. To support robustness and availability of securitization through the cycle, the utility is required to purchase government reinsurance against systemic credit events for whole vintages of mortgage securities. The structure of the proposed utility better aligns incentives in a variety of ways, notably by decreasing incentives for excessive risk taking. Moreover, the ownership structure and business model of the utility are designed to minimize mortgage rates faced by homeowners while still protecting taxpayers. Central to our approach is the notion that the system's source of capital goes hand in hand not only with its cost of capital, but also with its incentive structure and the nature of the market discipline it engenders.

In this paper, we explore in more detail the utility's capital structure, governance model, and regulation. This discussion also raises numerous other questions of broader interest in the debate on mortgage finance reform. Specifically, this paper is organized as follows.

- Section I ("Systemic Risk and Government Reinsurance") reviews the central debate in mortgage finance reform regarding the nature and extent of the government's role in addressing systemic risk. We argue that the government cannot credibly claim that it will not intervene in housing finance in the future and therefore must focus on managing its risk in the most effective way possible.

[1] See Dechario *et al.* (2011).

- Section II ("Vintage-Based Capital Structure") provides a more detailed description of how a vintage-based capital structure could mitigate the procyclicality of mortgage credit. In contrast to institution-level reinsurance, vintage-level reinsurance would provide greater clarity about the timing and terms of a government intervention, which would help maintain investors' and issuers' incentives to continue participating in the utility, thereby facilitating business continuity through a crisis and subsequent recovery. In addition, government reinsurance that is vintage – rather than security-based focuses more narrowly on truly systemic risk.
- Section III ("Pricing the Guarantee Fee and Building Capital") analyzes the relationships among the utility's guarantee fee charged to lenders, the government reinsurance fee charged to the utility, and various key assumptions, including the capital necessary to adequately cover unexpected mortgage credit losses, the attachment point of the government tail risk reinsurance, and potential sales of a junior bond. We find that the guarantee fee – and therefore the mortgage rate faced by borrowers – is most sensitive to the required capital ratio and the expected return on equity capital. Finally, we lay out a simple model of a transition period to build capital for the utility's inaugural set of vintages.
- Section IV ("Ownership and Governance") discusses at some length the incentive structure that mutualized ownership of the utility would provide to lenders and why it would be useful in the context of mortgage securitization. This includes a discussion of both internal governance mechanisms and a regulatory framework.
    - We explore how a mutualized ownership structure could better align the private incentives with the public interest to help maintain underwriting standards. Rather than relying solely on regulation, the utility's vertically integrated structure helps address the conflicts of interest along the chain of production (as well as loss mitigation) in securitization.
    - The weaker incentives for innovation found in cooperatives go hand-in-hand with a reduced tendency to take risk. Much as with a centralized counterparty or clearinghouse, low risk and less focus on innovation and market share are actually virtues for such critical infrastructure.
    - We discuss how a mortgage securitization utility would meet many of the criteria for success laid out in the academic literature on cooperatives.

The economics of housing finance are sufficiently complex that there may be no ideal model. In several cases, key objectives for the system, such as market discipline and systemic robustness, stand in tension with each other. Mortgage finance reform is likely a process of identifying the most workable, not the first-best, design – even on the economic merits, before considering the notoriously challenging political dimensions.

I. SYSTEMIC RISK AND GOVERNMENT REINSURANCE

The debate on the extent and nature of governmental involvement in the mortgage markets has been long running, but it received new urgency and fresh perspective as the housing crisis evolved into a financial crisis over the course of 2007-2009. Since then, observations and proposals have been published by a wide array of academics, industry trade groups, market analysts and policy makers. Notable among the early discussants were Federal Reserve Chairman Ben Bernanke and former Treasury Secretary Henry Paulson, who each laid out a spectrum of options for the housing GSEs, from full privatization to full nationalization.

More recently, the U.S. Department of the Treasury and the Department of Housing and Urban Development (HUD) released a report on options for reforming the U.S. housing finance system, pursuant to Section 1074 of the Dodd-Frank Act.[2] The Treasury/HUD white paper laid out three options for long-term reform of the U.S. mortgage market: privatization (outside of the Federal Housing Administration and Veterans Administration programs), a counter-cyclical government backstop mechanism, and a government role through the provision of a reinsurance program for systemic risk. The white paper said little about the institutional design or ownership structure under any of these options. Instead, the options were presented in broad enough terms that a number of structures could be compatible with them.

On one end of the Treasury/HUD spectrum of choices is a fully private model with no government involvement, at least not for the core of the mortgage market.[3] Advocates for this approach typically suggest a phased transition involving some combination of successively lowering

[2] "Reforming America's Housing Finance Market: a Report to Congress" (2011).
[3] Some proponents of the fully private approach would retain the FHA/VA for lending to low and moderate income households. See Jaffee (2010).

the conforming loan limit over time and raising guarantee fees.[4] The aim is to crowd back in private capital over time. A fundamental question with this approach is whether the federal government can credibly commit to not intervene in housing finance markets in the future. History suggests that the answer is no. If pressures become serious enough, housing is too important – in terms of its effects on both household wealth and financial stability – for the government not to step in during a crisis.[5] If this is the case, then we argue that it is preferable for the government to be transparent and to make its backstop role explicit, define the terms on which it would intervene, and charge a price for the systemic risk reinsurance it provides. The alternative is a *de facto* implicit guarantee that is not priced and lacks transparency with respect to when and how the government would intervene.

Critics of government reinsurance raise concerns about the ability of governments to set appropriate prices for their insurance programs.[6] While we acknowledge that governments have a history of mispricing guarantees, the degree of mispricing of an explicit guarantee is likely be substantially smaller than that of an implicit guarantee. That is, a positive price for the government guarantee is preferable to a zero price. In addition, defining *ex ante* the terms upon which the government will intervene (the "attachment point" of the reinsurance in a tail event) will likely lead to greater clarity and less uncertainty around the government's intervention as markets come under stress. This, in turn, would support asset prices and market functioning, both of which would support financial stability. Note, however, that the government reinsurance's attachment point must be credible, in that the government would not intervene ahead of this point, even as markets come under stress and political pressures mount.

Concerns over the ability of the government to properly price its reinsurance motivated a team of New York University researchers to propose a vertical risk-sharing role for the government.[7] In this model, the guarantee is fully priced in the market and the government receives a *pro rata* share of the guarantee fees. Note, however that with a vertical strip there is no effective

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[4] The charters of Fannie Mae and Freddie Mac restrict the types of loans that may be securitized; these limits include a set of loan size restrictions known as "conforming loan limits." For a discussion of how these limits have been adjusted in recent years, see Vickery and Wright (2013).

[5] Note that the same argument does not apply to other credit markets, where boom and bust cycles also occur but where government intervention is not typical, likely because the impact of credit "busts" in other markets are not systemic with respect to the rest of the financial system and the macroeconomy.

[6] See, for example, Lucas & McDonald (2007). For other discussions of mispricing government insurance, see Dwight Jaffee (2010) and Acharya *et al.* (2011). Note that in the case of the National Flood Insurance Program, the mispricing took the form of grandfathering existing properties, which would not be relevant for the government reinsurance of new mortgage originations if the legacy agency guarantees were not covered by the new utility.

[7] See Acharya *et al.* (2011).

government backstop, so that mortgage guarantors can go out of business. While in theory this should provide market discipline, in practice it might not; moreover, it raises the question of whether lending will remain robust in times of market stress. The NYU researchers rely on there being many guarantors in the market so that the failure of any one guarantor will not have a large impact on overall lending. However, the experience from the 2007-2009 financial crisis raises questions about this approach, since all guarantors would likely be adversely impacted at the same time by any truly systemic shock. As guarantors begin to fail, contagion could spread, resulting in a sharper contraction of lending.[8] Any market discipline from the vertical risk-sharing is eroded if guarantors then anticipate that the government would in fact support them to prevent this credit contraction.

In evaluating the degree of concern over the pricing of the government back-stop guarantee, it is important to keep in mind that in our utility, the guarantee is designed to be triggered only by a systemic shock – an event that is expected to happen only infrequently over time. The guarantee fee paid by a borrower consists of an annual fee with a component to compensate the private capital that takes a first-loss position ahead of the government, and another component to cover the government reinsurance for tail-event losses. As we will show, the vast majority of this overall guarantee fee, then, is determined by the market and not by the government.[9] In addition, the degree to which the overall guarantee fee varies with the changing risks in the lending environment is entirely reflected by changes in the privately priced component of the guarantee fee. That is, the price for the government's reinsurance would not vary over the credit cycle, but rather would be priced to recoup the government's expected losses associated with very infrequent payouts – for example once every 30 to 50 years. Because the terms of compensation for the government are laid out *ex ante*, there would be no need to "repay" the government by raising fees after a payout of the reinsurance. Changes in the government's reinsurance fee would only occur infrequently, based on new information accumulated over time about the nature of long-cycle systemic risks, not based on fluctuations in market conditions. Consequently, the variation in the guarantee fee over the credit cycle would be entirely driven by repricing of the private capital.

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[8] Similarly, Seidman *et al.* (2013) provide a government wrap for MBS securities. The government guarantee would pay investors only in the event that the lender's capital is fully depleted. That is, the guarantee kicks in only when the lender is no longer a going concern.

[9] For example, in our baseline case to be discussed later, the government fee comprises abour 15 percent of the overall fee.

Numerous commentators have questioned whether a combination of private capital and a government backstop guarantee is more cost effective than a pure private capital approach. Scharfstein and Sunderam (2011), for instance, argue that the combination approach is more cost effective only if the government does not charge a risk-premium for its guarantee. As pointed out by Arrow & Lind (1970), a risk premium for government insurance is appropriate if taxpayers are required to cover any shortfalls in the government insurance fund at the same time as there has been an adverse shock to their income (and the marginal utility of their income is therefore high). This occurs if the government is required to have a balanced budget each year and to meet any shortfall between the available insurance funds and the claims on the fund by some combination of cutting current government expenditures and raising current taxes. However, the associated risk premium is limited by the fact that the federal government can borrow against future guarantee fees from an international investor base to cover any shortfall. Experience also suggests that in such an event, the U.S. government's borrowing costs would likely not be elevated, due to flight-to-quality dynamics supporting demand for U.S. Treasury securities. As a result, the federal government can provide this reinsurance at a lower cost than private firms would through self-insurance.[10]

A related question is whether government reinsurance is important for maintaining a liquid secondary market in MBS. Following the second option contemplated by the Treasury/HUD 2011 white paper, several proposals incorporate some mechanism for expanding the government's role in the mortgage market during times of crisis.[11] Some have argued that a government backstop guarantee is not necessary in a normally functioning market. That is, the guarantee would only have value during periods of market stress. If this is the case, then a better alternative to government reinsurance might be to have the government expand its role in periods of market stress in order to support liquidity. However, this argument applies to all forms of insurance: the consumer of the insurance only receives a payout under specified scenarios, but it does not follow that the insurance only has value at those times.

An important aspect of government reinsurance is that it would support mortgage market liquidity across all market environments. Throughout the cycle, liquidity in the secondary market is enhanced by investors knowing that they do not face any credit risk regardless of current and future

[10] It is also important to be careful in defining the alternative to the government guarantee that is being used to make this efficiency comparison. If there is no explicit government guarantee and private firms do not completely insure against systemic shocks as you move further out in the tail of the risk distribution, then we are back to an implicit, un-priced government guarantee.

[11] For examples, see Scharfstein and Sunderam (2011), the CAP Mortgage Finance Working Group, and Hancock and Passmore (2010).

(foreseen or unforeseen) market conditions. Investors do not have the same faith in the credit protection provided by structured securities lacking government support. A widely-cited goal of mortgage finance reform is to provide a robust system of finance even during periods of market stress. Absent a backstop guarantee, following a sufficiently adverse shock, a fully private lending market is prone to experiencing a severe contraction in credit availability with adverse consequences for the real economy. The government can intervene to support liquidity for new securities during such a crisis, but this leaves investors in existing securities exposed to potential credit losses if the private guarantees default. Importantly, since financial markets are forward-looking, expectations for such scenarios will affect market liquidity in normal times as well.

Note that the liquidity benefits of the agency MBS market arise not only from the government backstop, but also from the standardization of the products themselves, as detailed by Vickery and Wright (2013).[12] Even in normal times, a private securitization market will not produce liquid standardized securities, because the security issuers have incentives to create differentiated products, not standardized ones. This is demonstrated by the long history of high product diversity and low liquidity in private-label mortgage securities, consumer credit securitizations, and corporate bonds. In part because of these features, in times of market stress, nonstandard financial instruments demonstrate much less liquidity, greater price volatility, and a larger drop in issuance and credit formation.[13]

Scharfstein and Sunderam (2011) propose to deal with the problem of cyclicality in credit availability by establishing a government guarantor that would significantly increase its lending during periods when private lenders were reducing their credit exposure. In normal market conditions, the government guarantor would define its credit box and price its guarantee fee so as to maintain a modest market share of new originations. The expectation is that this would allow the government guarantor to be able to retain the expertise and systems necessary to perform its lending backstop role when required. The balance sheet of the government guarantor, consequently, would be very elastic over the credit cycle.

This alternative approach raises the question of whether it is more efficient and effective to support robust credit availability through a government reinsurer for private lending or through a government agency that provides backstop lending. Assuming that both approaches could be

[12] Vickery and Wright estimate the liquidity benefit of the TBA market, separate from any credit guarantees, is probably about 10-25 basis points under normal market conditions and significantly higher during periods of market stress.

[13] For a discussion of illiquidity of corporate bonds and associated liquidity risks, see Chen *et al.* (2013).

designed to maintain credit availability during periods of market stress, the question is which approach exposes the taxpayer to less risk. With the government reinsurer, the risk to the taxpayer takes the form of underpriced government guarantee fees. With the government backstop lender, the risks to the taxpayer take the form of a more direct exposure to credit and operational losses at the government lender that are not covered by its guarantee fee – that is, another form of underpricing.

In thinking about this comparison, it is instructive to look at the recent case of the Federal Housing Administration (FHA). The FHA has essentially been performing the role of a countercyclically-scalable government securitization mechanism through the most recent housing cycle. At the height of the non-prime lending boom, the FHA's market share of originations fell below 5 percent. As house prices began to decline and non-prime lending collapsed, the FHA's market share more than tripled to over 15 percent, with the size of the FHA's insurance in force exceeding a trillion dollars. The last audit review estimates that the FHA's current books of business have a negative present value of $13.5 billion.[14] Recent analysis indicates that the resulting credit risk to the FHA insurance fund from increasing its lending has been significantly underestimated over the past several years and that the FHA may require taxpayer support for the first time in its history.[15]

This experience of the FHA offers a caution to the countercyclically-scalable government backstop approach. As noted earlier, changes to the overall guarantee fee charged to borrowers over the credit cycle by the government-reinsured securitization utility would be market-based. This contrasts with the guarantee fees charged by a government lender which, as in the case of the FHA, are likely to be relatively insensitive to changes in credit risk, due to political constraints. This is exacerbated by the pressure on the government lender to define a much wider credit box than would be the case for a private utility. These factors all suggest that the risks to taxpayers may well be much higher from a backstop government lender than from an explicit and priced backstop government reinsurer for private lending.

An equally important issue in managing the systemic risk of housing finance channels is inherent tensions across agents in a securitization chain, tensions that are multiplied when securitization has access to even remote government reinsurance. The potential misalignments in

[14] This puts the FHA $36 billion below its 2 percent capital level that it is required to maintain. See Integrated Financial Engineering, Inc (2012).
[15] See Aragon *et al.* (2010), Gyourko (2011), and Caplin *et al.* (2012).

incentives inherent in all securitizations are discussed in detail in Ashcraft and Schuermann (2008) and Adrian and Ashcraft (2012). The history of private-label securitization in the mid-2000s is a case study in how the breakdown of mechanisms to align incentives across mortgage lenders, securities issuers, and investors can contribute to housing bubbles and subsequent systemic crises in housing finance. Similarly, Fannie Mae's and Freddie Mac's contributions to the financial crisis highlight the moral hazard associated with misaligned incentives between the government and the private sector, as well as their implications for systemic risk.

Addressing both types of incentive misalignments is the core argument for a mutualized securitization utility. The mutualization of ownership and risk would align incentives across private members to set and enforce high credit standards and reduce incentives to compete by lowering credit standards during boom times. This reduction in incentives for a "race to the bottom" during good times can mitigate the procyclicality of mortgage credit availability. In addition, having securitization and credit standards set by the same entity that holds significant credit risk aligns members' incentives to monitor and manage risk over time. Compared to shareholder-owned financial firms, mutualized utilities have lower risk profiles, lower required profits, and much lower incentives to expand into new business areas, all of which are aligned with the policy imperative to manage tail risk in a careful way.

Most recent proposals, including our own, to reform the housing finance system in general and GSE-type securitization in particular, emphasize the sharply differentiated roles of private sector participants and the government.[16] However, most alternative proposals are largely silent on how these roles intersect and the associated incentive alignment issues in securitized mortgage markets. Rather, there is a reliance on regulatory oversight with limited or no discussion of how government and regulators will address the information asymmetries and avoid being "gamed" over time by the private sector. In addition, other proposals provide little guidance on how they will limit a "race to the bottom" in credit standards during upswings in housing activity, when mortgage lending can degenerate into a volume-focused business model. In other words, a strong regulator may not be sufficient to make up for a poor mechanism design.

In order to avoid repeating the pitfalls of the recent crisis, housing finance reform, and securitization reform in particular, should directly address, in detail, the mechanisms to align incentives across all participants – private and public. However, the economics of housing finance are sufficiently complex that there likely is no ideal model. Rather, GSE reform realistically is an

[16] For example see Seidman *et al.* (2013), and the Bipartisan Policy Center Housing Commission (2013a).

effort to identify the most workable options, not the first-best option – even on the economic merits, before considering the notoriously challenging political dimensions. Policymakers and analysts must therefore weigh the benefits and risks associated with each proposed model and focus on their trade-offs in both preventing and responding to systemic risk events.

II. VINTAGE-BASED CAPITAL STRUCTURE

In this section we discuss a vintage-based capital structure for a mortgage-insuring securitization utility, including equity capital provided up front by the private sector. This builds off our initial description of vintage-based capital in Dechario *et al.* (2011).

Capital Structure

Like Freddie and Fannie, the utility would receive guarantee fees on a flow basis from the loans underlying its mortgage-backed securities (MBS). In addition to compensating the government for the reinsurance of systemic risk, these fees would cover operating costs, generate a return on capital, and build loss absorption capacity within the utility. In our previous paper, we argued that the government tail risk reinsurance would be optimally applied at the level of a "vintage," or a set of MBS pooled across issuers within the utility and originated over a particular time period – for example, the six-month period used for the ABX index, or a year.

A vintage approach has several attractive features. For instance, it is consistent with the insurance only being triggered by a systemic shock. Loan-level guarantees would be triggered by idiosyncratic factors that impact a borrower's ability to pay (such as unemployment, health shocks, and divorce), while security-level guarantees would be susceptible to regional shocks (as opposed to macroeconomics shocks). In either case, these are not systemic events, and so are not appropriate for government reinsurance.

The alternative of institution-level guarantees such as in Seidman *et al.* (2013) raises questions about continued credit availability amid concerns about the solvency of the institutions issuing or guaranteeing the MBS. In a systemic event, all institutions taking mortgage credit risk ahead of the government would likely face increasing credit losses simultaneously, especially those with a monoline business model. As noted above, uncertainty about institutions' solvency, the point at which the government intervenes, or the terms of any reorganization can impair the institutions' ability to obtain and provide private capital to mortgage securitization. In addition to adding

downward pressure to asset prices, this would likely impair market functioning. Various solutions have been proposed to address these concerns about recovery and resolution planning, including minimum average debt maturity levels and contingent capital. However, these approaches generally require some impairment of the firm itself – apparently in an attempt to address concerns about "too big to fail" issues and to punish bad actors – which would still raise questions about market confidence and hence, systemic risk and financial stability.

In contrast, a vintage-level guarantee would provide not only clarity about business continuity but also the lighter operational burden and more appropriate risk profile of a guarantee narrowly focused on systemic risk. Note that the vintage-level attachment would not fall neatly into either of the "issuer-based" and "security-based" categories laid out by the Federal Housing Finance Agency (FHFA).[17] A vintage is neither an individual security nor an issuer, in the sense of a perpetual corporation. Rather, a vintage would be a limited-duration legal trust, a non-replenishing aggregation of mortgage securities and their underlying loans.

Note that a vintage-level guarantee would help to limit the procyclicality of the provision of residential mortgage credit by promoting confidence among MBS investors, lenders, and equity holders alike. Because they would have confidence that the institutional framework or "rules of the game" are not about to change, market participants need not speculate on whether or when the government will intervene, who will bear what proportion of the losses, or how newly-originated mortgages will reach the secondary market. The government tail risk reinsurance would provide a "fire break" between losses on existing vintages and new lending, which implies that market participants would never question the viability of the utility and the market it supports. The "fire break" further implies that losses from an existing vintage would not eat into the capital or fees supporting a new vintage and there would be no uncertainty over the maximum vintage losses that lenders selling to the utility may incur. The lenders would therefore still have an incentive to continue participating in the utility, knowing that their return from selling mortgages into a new vintage is not impacted by the performance of earlier vintages, and that the guarantee fee on new mortgages reflects the expected loss rate in the current lending environment, not a prior one.[18]

Historical data covering the recent financial crisis on cumulative default rates for prime conforming mortgages broken out by year of origination (see Figure 1) indicate that the

[17] See Demarco (2013).

[18] The importance of this dynamic is underscored by reports that relatively subdued refinancing activity in recent years has been attributable in part to lenders' reluctance to gain exposure to other firms' underwriting over previous years.

performance of vintages of loans underlying the mortgage-backed securities issued in the same year appears stratified. This stratification is typically apparent within 3 years of origination, suggesting that each vintage need adhere to a conservative capital ratio for only an initial few years, after which capital in excess of expected losses could begin to be released for distribution as dividends to participants in the vintage (or, as explained below, rolled over into start-up capital for new vintages). This stratification is also relevant for setting the attachment point of the government tail insurance, as discussed in Section III.

Going beyond the conceptual basis, how might a vintage-based program be operationalized? Members would be eligible to sell mortgages to the securitization utility after paying in some equity capital up front. Non-members could gain access to the securitization markets either on less preferable terms, or by selling loans to members via what the industry calls "correspondent relationships" with aggregator banks. Participants in each vintage would contribute loss-absorbing capital to vintage-specific loss pools – again, separate legal trusts – in proportion to the volume of mortgage balances they securitized into each vintage.[19] As we discuss in more detail in Section IV, providing non-members multiple points of access to the securitization markets would help ensure equitable pricing for all lenders.

An example of a capital waterfall for the utility is shown in Figure 2, while the vintage-level guarantee is illustrated in Figure 3.[20] After an initial transition period described at the end of Section III, the utility would be expected to fully capitalize each new vintage once it has securitized the last of the constituent securities. As we discuss below, for each vintage the utility would be expected to hold a specified amount of loss-absorbing capital – for example 3 percent – against the total origination balance. This could be sourced from new contributions, excess capital released from prior vintages, and income accruing to each vintage. The utility might also issue a limited amount of debt, exclusively for the purpose of buying non-performing loans out of securitization trusts and for funding the loss-mitigation process – although this would raise governance questions, which we highlight Section IV.

The utility would be required to hold the full amount of loss-absorbing capital for an initial period of, for instance, three years. At that point, a vintage-specific delinquency test would be

[19] Charging fees proportional to the volume of balances they securitize would be analogous to the approach used within the Federal Home Loan Bank (FHLB) system.

[20] One potential refinement of this model would be to allow for "representations and warranties" clauses to allow the utility to exclude some types of losses from being mutualized. Much of the content and use of such clauses are issues that apply across proposals for institutional reform, but we note a few implications for a mutual structure in Section IV's discussion of governance.

performed, and if the vintage's performance at its three-year anniversary indicated that the vintage would be unlikely to trigger the government reinsurance, then the regulator could allow the utility to begin to release capital and require that, going forward, capital be held against only the remaining (as opposed to the original) balance in the vintage.

In order to accelerate the accumulation of capital in each vintage, the utility could – subject to regulatory approval – transfer excess capital from existing vintages into start-up capital for new vintages. Likewise, to satisfy its stipulated loss absorption ahead of the government, the utility could suspend or "lock down" distributions of excess capital from prior vintages and transfer them to supplement capital in vintages that have already distributed some of their capital but subsequently have come under stress. In order to preserve the "firebreak," this lock down would only apply to capital from participants in the vintages with the higher-than-expected losses. In addition to providing supplemental loss absorption capacity, this would further align member incentives with a long-term view of mortgage credit risk.

Note that the countercyclical "fire break" between existing vintages and new lending implies an important asymmetry: although excess capital from maturing old vintages could be rolled over to support new vintages, capital from new vintages cannot be used to absorb losses from older vintages. This asymmetry would be critical for maintaining confidence and preventing something akin to a bank run. Otherwise, lenders might decline to participate in a new vintage if they fear paying for previous vintages' losses.

While the vintage structure would mitigate some procyclical pressures in residential mortgage lending, it cannot eliminate them all. For instance, there would be certain start-up costs to capitalizing the first few vintages after losses from a systemic event wipe out the capital of one or more vintages and reduce the excess capital from previous vintages. Therefore, a transition period similar to that for the inaugural set of vintages (again, described more fully at the end of Section III) might be required to mitigate any procyclical dynamic in restarting the vintage capitalization cycle. Nevertheless, the key point remains that once a vintage triggers the reinsurance, any uncertainty over the ultimate magnitude of losses for that vintage would not hinder starting a new vintage.

III. PRICING THE GUARANTEE FEE & BUILDING CAPITAL

A key question for any mortgage market reform model is what level of guarantee fees (g-fees) a government-reinsured securitization utility would require and the resulting impact on fixed-rate mortgage rates. In this section, we present calculations that illustrate the relationships among capital and other factors that affect the utility's guarantee fees and the government reinsurance fee. Our intention here is not to present a full capital model, but rather to illustrate the dynamics and sensitivities of capital and guarantee fees to several key variables. A comprehensive, risk-based capital modeling exercise is beyond the scope of this paper.[21]

We assume that the utility initially will securitize mortgages that adhere to credit and most of the other standards currently in use by the GSEs. This is advantageous from a transition standpoint, because it will not require changes to MBS characteristics or TBA trading conventions, and it will facilitate the continued flow of mortgage credit across all types of lenders who have underwriting systems geared to current GSE standards. In addition, using current GSE standards will simplify the regulator's job of setting initial capital standards, risk management standards, and the pricing of the government reinsurance, since it can rely on a large quantity of historical information on the performance of mortgages securitized by the agencies.

Over time and with regulatory approval, the characteristics of the mortgages securitized by the utility may be adjusted, but the utility should retain a focus on securitizing core, standardized mortgage products: loans to high-quality prime credit borrowers with substantial downpayment requirements (for instance, 20% of the loan balance). To that end, it would be helpful if the utility's maximum combined loan-to value ratio (LTV) could be enforced by the lender over the life of the mortgage by restricting borrowers' ability to place second liens on their mortgage properties.[22] Note that this would still leave the lender exposed to the risk that declines in housing prices could push LTVs above the utility's maximum level.

While the utility would restrict its lending to prime borrowers, the mortgage products it securitizes may differ from traditional conforming loans in at least one respect. With appropriate pricing of the government guarantee, neither the utility nor the borrowers of the mortgage loans securitized by the utility would receive a government subsidy. This has important implications for

[21] For examples of more formal modeling of capital and credit risk, see Smith and Weiher (2012) and the Bipartisan Policy Center Housing Commission (2013b). For a more formal modeling of mortgage rates, see Andrew Davidson & Co. (2013)

[22] This would require systems for lenders to keep track of outstanding liens.

thinking about whether the utility should impose the current GSE conforming loan limits. There are two rationales for the conforming loan limits. The first is that the mortgage pricing is subsidized and the limits are designed to target the subsidy. However, without a subsidy, this constraint does not apply. The second rationale is that large-balance mortgage loans are not ideal for including in securities, due to their distinctive prepayment behavior and the discrete shifts in security-level outstanding principal balances that occur as individual large loans refinance or default. With appropriate pricing of the government guarantee, the loan limit should reflect the second rationale. Yet fully appropriate pricing would include pricing these differences in prepayment characteristics, in which case a higher loan limit than the current conforming limit would be justified.

To simplify our discussion of the guarantee fee needed to cover all costs and provide an expected return, we use a simple model based on the Basel framework for bank capital. Under the Basel requirements, a regulated financial institution must hold loss-absorbing capital in proportion to the aggregate risk exposure of its assets.[23] To account for variation in riskiness across assets – and therefore the amount of loss absorption capacity a regulated institution needs – the Basel standards apply "risk weightings" to different asset classes. The required capital ratio is thus a simple metric for the institution's aggregate ability to absorb losses relative to the assets it holds. This relationship can be expressed in a simple equation:

$$\textit{Capital Ratio} = \textit{Capital} \,/\, \textit{Risk-Weighted Assets}$$

As a definitional matter, it is important to note that the capital calculations below refer to loss-absorbing capital that is held in each vintage's mutualized loss pool. Under this model, the main two drivers of the guarantee fee are the utility's required capital ratio and its assumed return on equity. Other significant drivers of pricing are the assumptions about the frequency of reinsurance payouts and the total cumulative loss associated with a tail event, while a marginal contributing factor is the administrative costs (later we will discuss the impact of risk syndication or junior bond scenarios). In other words, the guarantee fee consists of the following components:

$$\textit{Guarantee Fee} = \textit{Capital Charge} + \textit{Administrative Cost} + \textit{Expected Losses} + \textit{Reinsurance Fee}$$

The specifications for the capital charge and the reinsurance fee are:

[23] See Elliot (2010) and the Basel Committee on Banking Supervision (2008).

*Capital Charge = (Capital Ratio * (Expected Return – After-Tax Interest Income on Capital)) / (1 – Tax Rate)*

*Reinsurance Fee = (Expected Tail Loss – Expected Loss – Capital) / (Total Notional * Years)*

As a point of comparison, prior to the Housing and Economic Recovery Act of 2008, the GSEs were subject to a regulatory regime completely separate from depository institutions. They were required to hold capital against off-balance sheet assets sufficient to meet an idiosyncratic minimum leverage ratio of 45 basis points.[24] To translate this into a bank-like Basel-based capital ratio, we assume a Basel I risk weighting of 50% for prime residential mortgage loans. This represents the "floor" on Basel III risk weights for U.S. banks and so is a useful comparator for the capital cost to originators of holding mortgages on their own balance sheets, rather than securitizing them.[25] Applying this risk weighting to a balance sheet composed entirely of mortgage assets, the minimum leverage requirement for the GSEs of 45 basis points would correspond to an effective capital ratio of only 0.9%.[26] Like other commentators, we believe recent history has proved that this level was insufficient and therefore use a higher capital ratio as a starting point.

Required Capital Ratios

Below we walk through some calculations to discuss the sensitivity of the derived guarantee fee to assumptions about capital, losses, and other variables. We assume a required capital ratio of 3% as a base case, and later consider the impact of higher capital standards on guarantee fees. At the 3% capital ratio level, the GSE's $4.4 trillion book of business would have required $132 billion of capital. Note that a 3% capital ratio would be consistent with Freddie Mac's recent Structured

[24] The GSEs were also subject to a cash flow stress test, but in practice, the minimum leverage ratio was binding.

[25] The Dodd-Frank Act introduced the concept of a capital floor, which provides that the net aggregate effect of subsequent Basel standards may not produce capital requirements less than those under Basel I. However, since we are considering a monoline mortgage securitization utility, it is not possible to counterbalance adjustments to risk weightings across different asset classes (0% for U.S. Treasury securities, 20% for agency MBS, and 100% or more for high-yield corporate bonds).

[26] That is, since 0.45% = capital / assets, then 0.9% = capital / (0.5*assets).

Agency Credit Risk (STACR) deal[27] and equivalent to a 6% capital ratio for a bank using Basel I risk weighting of 50% for residential mortgages.

Whether a vintage exhausts the utility's loss-absorbing capital depends on the vintage's cumulative default rate and the average loss severity. Assuming a 40% loss severity,[28] an effective capital ratio of 3% would imply a government tail reinsurance trigger at a 7.5% cumulative default rate for a vintage. Turning again to Figure 1, if vintages were defined by calendar year, the 2006 and 2007 vintages would have breached this trigger, but not the 2005 or the 2008 vintages. The 2006 and 2007 vintages of GSE-guaranteed mortgage loans reflected a significant deterioration in underwriting standards, but since their cumulative default rates have exceeded the 7.5% threshold by several percentage points, it is possible that even if their underwriting quality had been maintained, they would have still breached this trigger – albeit somewhat later – if they went through the recent housing price cycle. Although we anticipate that proper governance and pricing could prevent or reduce deterioration in underwriting, this is far from guaranteed.[29] The larger point is that this 3% attachment point is conservative in that it would make triggering the government reinsurance relatively unlikely.

Other Assumptions

We assume that the fee would continue to be collected as a spread over secondary mortgage rates and would be used to fund operating expenses, expected losses, and a required return on capital for the owners of the mortgage-insuring securitization utility. Given the conservative underwriting standards mentioned above, we assume expected credit losses of 10 basis points per year, although given the historical performance of prime conforming mortgages that the GSEs traditionally guaranteed, the expected loss rate could be lower.[30] In addition, we assume administrative costs of 10 basis points per year, a 35% tax rate, and a 2% after-tax interest income on capital reserves (a very conservative assumption given that the June 2013 Blue Chip Survey forecasted a long-term average on the 3-month Treasury note of 3.7%).

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[27] See "Freddie Mac Sells $500 Million of Mortgage Securities," by Al Yoon and Nick Timiraos in the *Wall Street Journal*, July 23, 2013.

[28] The maximum average loss severity during the financial crisis reported by Fannie Mae was 37.2% in 2009, according to its annual Form 10-K filings. For earlier estimates of loss severity, see Qi and Yang (2007).

[29] Weakening of underwriting standards need not take the form of lower credit scores, higher measured loan-to-value ratios, or higher debt-to-income ratios. Rather, it may be more subtle, showing up as bias in assessing appraisals or income levels.

[30] Fannie Mae's 2004 Annual Report describes a loss rate over the previous several years of nearly 0.5 basis points. This may be net of the positive effect of reinsurance so the gross rate may have been higher.

In our base case, we also assume a 10% return on the utility's equity capital and tail events occurring every 30 years. For guidance on an appropriate expected return on equity capital (in terms of earnings from securitization and insurance fees, not interest income), we looked at several industries. While data from Bloomberg indicate that the historical average return on equity for financial companies in the S&P500 that have stayed in business over 1993-2011 has been 15%, calculations by Damodaran indicate that insurance companies and physical utilities (*i.e.*, power and water companies) tend to provide returns in the range of 8% to 10%.[31] In their model for catastrophe insurance, Harrington and Niehaus (2003) have also used 10% as a hurdle rate.[32] However, some financial mutuals have historically provided returns well below 10%,[33] and financial market utilities have occasionally operated on a profitless, breakeven basis.

Indeed, in the following section, we argue that members of a mutualized securitization utility may have reason to accept lower returns on their paid-in capital if they view the utility as a mechanism for lowering funding costs and increasing the volume of origination fees, rather than a profit center in its own right. Furthermore, calculations for financial market utilities' returns are sometimes based not on the entire loss absorption capacity of the firm, but on the much smaller equity capital contributed only by the members of the utility,. In the calculations below, the assumed returns are calculated as the return on the entire loss-absorbing capital base. In light of the comparative evidence, it seems likely that a mortgage securitization utility would not need to provide the 15% return on equity capital often cited for financial companies, but it seems prudent to assume it would need to earn more than other types of cooperatively owned financial utilities.

Access to Government Tail Insurance

In the table below, we calculate the guarantee fee for several scenarios, changing assumptions regarding the presence of priced government reinsurance, the capital requirement, the return on equity, and the frequency of tail events (later, we provide sensitivity analyses for several variables, then explore risk syndication or junior bond scenarios). In each of these cases, we assume that in a tail event, the maximum loss for a vintage is 6% – twice the loss level that triggers the government reinsurance – and that this occurs at regular intervals specified in the model. Assuming

[31] See: http://people.stern.nyu.edu/adamodar/New_Home_Page/datafile/roe.html.
[32] Harrington and Niehaus (2003).
[33] Data from SNL indicates that over the period 2002-2012, four mutual insurance companies (MassMutual, Northwestern, NY Life, and TIAA-CREF) provided returns of about 5% to 7%. We thank Julia Gouny for research assistance on this point.

a loss given default of 40%, a 6% maximum tail loss implies a 15% cumulative default ratio, which is well above the approximately 11% cumulative default ratio that Fannie Mae's 2007 vintage has reached so far. These are very conservative assumptions, especially since we are also assuming substantially higher-quality underwriting than Fannie Mae's 2007 vintage and since the government will require compensation for taking on the risk of a 6% cumulative loss in a tail event.

Among other things, this conservatism is meant to address the concern that the risk-neutral fair value of government-provided reinsurance could be much higher than the expected tail-event loss, since the reinsurance is paid out in the worst states of the world. As noted above, we would argue that the risk premium faced by strong-credit sovereigns is lower than that of private firms, particularly in times of market stress. Nevertheless, our use across scenarios of a single high-stress tail-event loss assumption is meant to account for this discrepancy between the reinsurance's risk-neutral expected value and its actual (or assumed) fair value. That is, we implicitly build a risk premium into the reinsurance fee by assuming that if cumulative losses exceed 3 percent, they will always reach a 6 percent cumulative loss, rather than any cumulative loss between 3 percent and 6 percent.

In our first scenario, a fully privatized structure, the utility would be required to hold capital sufficient to absorb entirely on its own the full 6 percent maximum tail-scenario losses for any vintage. This would be consistent with a pledge by the government never to intervene. With these assumptions, we estimate that the total guarantee fee would then need to be 94 basis points. This is at least four to five times the size of the pre-conservatorship guarantee fee charged by the GSEs.

In the next scenario, the utility has access to government reinsurance. In that case, the government absorbs any losses on a specific vintage beyond the utility's required 3 percent capital, and receives a fee as compensation. In our base case, the fee is calculated to compensate the government for absorbing the residual 300 basis points of losses in the tail-event loss of 6 percent occurring once over a 30-year horizon, and our model produces a guarantee fee of 67 basis points. Stepping back from the particular point estimates, the key takeaway is that even though the government would be expected to pay out on this reinsurance only rarely, the government backstop reduces the annual guarantee fee for mortgages by almost 29 percent. This reflects the efficiency gain from moving from private to public provision of the tail insurance.

The access to government reinsurance significantly lowers the overall guarantee fee, since the reinsurance fee paid to the government as compensation for tail-event losses is only assumed to break even over the entire credit cycle, and its losses need not be covered up front. In contrast, the

owners of a private firm pay in capital up front, although subsequently it may be supplemented by retained earnings. This pricing differential implies that if the government guarantee fee is inadvertently set somewhat too high, then the utility still would likely not lose significant market share, unless private funding of mortgages outside of the utility were not required to hold adequate capital to cover the expected tail loss.[34]

Pricing under several scenarios, without and with government tail-risk reinsurance, are summarized below. Note that the reinsurance fee only varies with assumptions that affect the government's risk exposure: the tail-event loss rate, the tail-event frequency, and the level of private capital. Note also that if the utility securitized more risky, nonstandardized mortgage products – for example low-downpayment mortgages – higher guarantee fees would result from both a higher required capital ratio and a higher tail loss assumption.

Assumptions					
	No Reinsur.	**3% Capital**	4% Capital	15% ROE	50 Years
Total loss in tail event	6%	**6%**	6%	6%	6%
Required private capital	6%	**3%**	4%	3%	3%
Expected return on capital	10%	**10%**	10%	15%	10%
Period between tail events	30 years	**30 years**	30 years	30 years	50 years
After-tax interest income	2%				
Tax rate	35%				

Fee Breakdown (basis points / year)					
	No Reinsur.	**3% Capital**	4% Capital	15% ROE	50 Years
Expected Losses	10				
Admin. Cost	10				
Reinsurance Fee	0	**10**	6	10	16
Net Income	75	**37**	50	60	37
Guarantee Fee	**94**	**67**	**76**	**90**	**63**

Sensitivity analysis

As the specifications listed above imply, the guarantee fee is a linear function of most of the variables. For example, if the expected loss rate on a vintage increases from 10 to 15 basis points due

[34] See Frame *et al.* (2012), page 27.

to weaker economic fundamentals, the guarantee fee would increase by 5 basis points.[35] Consequently, forecasted cyclical fluctuations in credit risk would be fully priced. Since this repricing would be done by the private sector participants and not by the government (although changes to the guarantee fee, particularly reductions, would require regulatory approval, as discussed below), credit risk should not be shifted to the government guarantee – in contrast to a concern raised by Frame *et al.* (2012).

Below we highlight the sensitivities of guarantee fees to other key inputs, by varying one input at a time (in each table, a baseline, corresponding to the scenario labeled "3% Capital" above, is highlighted).[36] These examples demonstrate that the fee is most sensitive to the required capital ratio, followed by the required return on capital. Thus, as the required capital ratio varies from 2% to 5%, the guarantee fee rises by 18 basis points, whereas varying the expected return on capital from 8% to 15% has a more modest effect, with the implied guarantee fee rising 23 basis points. Raising the capital requirement (while holding tail-event frequency and tail-loss rate constant) involves competing dynamics, as the decline in the government's required compensation partially offsets the rise in the private sector's.

Sensitivity to Capital Ratio

Capital Requirement	2%	3%	4%	5%
Guarantee Fee (bps)	58	67	76	85

Sensitivity to Expected Return on Equity Capital

Expected Return	8%	10%	12%	15%
Guarantee Fee (bps)	57	67	76	90

The guarantee fee is less sensitive to the expected tail-event loss rate and time horizon assumptions. As the assumed expected tail-event loss rate over a 30 year horizon rises from 4% to 8%, the implied guarantee fee rises 13 basis points. Holding all other variables constant from the base case, as the assumed horizon for the maximal tail loss extends from 10 years to 30 years and

[35] If the utility did not increase the guarantee fee in the face of this increase in expected credit losses, then these losses would come out of their capital backing the vintage. As such, these participants have the incentive to adjust the guarantee fee in response to changes in expected loss rates.
[36] This is a simplification since the inputs likely co-vary together. For example, raising the capital ratio should lower the required return on capital everything else held constant.

then beyond, the reductions in the guarantee fee become smaller – a fortunate dynamic since longer-dated credit cycles are more difficult to price.

Sensitivity to Tail-Event Expected Loss Rate

Tail-Event Loss Rate	4%	6%	8%
Guarantee Fee (bps)	60	67	73

Sensitivity to Frequency of Tail Events

Years between Events	10	30	50
Guarantee Fee (bps)	86	67	63

Junior Bonds: Outside Capital and Market Discipline

A number of proposals and commentators have called for other channels to attract more private capital to stand in front of any government reinsurance of mortgage risk. In the utility described above, private capital comes from borrowers through downpayments, from lenders and originators through paid-in capital, and from the utility's retained earnings (that is, accumulated guarantee fees). However, as the FHFA and many commentators have noted, there may be several advantages to attracting supplemental sources of private capital and providing a variety of structures for sharing credit risk in a new system.

One way to do this within the proposed utility would be to allow for the sale of junior bonds with direct credit risk exposure to specific vintages securitized by the utility and subordinated to the utility's equity capital. Such junior bonds could allow for diversification of credit risk to investors beyond the utility, reducing the concentration of risk. If junior bonds attracted investors who would otherwise not be willing to invest in mortgage risk indirectly (that is, by investing in the lenders themselves), then these bonds could replace a portion of the private capital, broadening the capital base available for mortgage credit and potentially reducing the cost of mortgage credit. In addition, sales of junior bonds to a broader marketplace could provide both the utility and its regulator with a market assessment of the credit risk in each vintage.

However, if not structured properly, there are also potential disadvantages to diversifying the utility's capital structure. We review four potential pitfalls, and then explain how junior bonds can be designed to mitigate them.

First, it is important not to rely on facile assertions about market discipline. A major problem in private-label mortgage securitization prior to the crisis was the spectacular failure of

credit investors to impose market discipline on issuers.[37] Many private mortgage securitizations relied on bond structures whose sole purpose was to achieve particular credit ratings (often related to risk weightings for regulatory capital standards). These targeted credit ratings were typically investment grade – high enough that many investors felt overconfident that their credit risk exposure was low.[38] Such investors relied excessively on the ratings agencies' opinions, rather than conducting independent due diligence on the credit risk. Investment patterns in risky bonds – both structured credit bonds and corporate bonds – suggest that investors who conduct appropriate due diligence are those who invest in instruments with expected losses, loss distributions, and yields consistent with speculative or "high-yield" credit ratings. A junior bond with an *investment grade* rating, therefore, is unlikely to provide significant market discipline or independent credit evaluation. Indeed, it could invite the kinds of regulatory and ratings arbitrage that contributed to the excesses and subsequent downfall of the private-label securitization market.

In addition, because investment in risky bonds tends to be highly procyclical, an overreliance on junior bonds as a source of credit protection could reduce the utility's robustness during a market downturn. If the utility has over time been regularly selling off a significant amount of bonds, then it will have less internal capital from prior vintages to pass forward to a new vintage if investors withdraw their support. While there is an inherent cyclicality to the lender community's behavior as well, during a period of tight credit availability, lenders will likely be willing to undertake some lending for securitization at some price, whereas many credit investors may withdraw from the housing sector altogether, just as we have seen in recent years. During downturns, the utility may be able to obtain capital more consistently from the lender community (via share purchases and retained or capitalized guarantee fees) than from the credit markets.

A third consideration involves leverage and diversification of capital sources. Junior bonds could be used by levered mortgage-lending or -insuring institutions to increase their earnings by "doubling down" on their exposure to credit risks. Not only would this fail to diversify sources of mortgage funding, but it could increase aggregate leverage in the mortgage system. Leverage and concentration risks are particular concerns if the credit risk is distributed through insurance or derivatives, since these mechanisms would add additional long-term counterparty risks and are likely to be particularly attractive instruments to levered financial institutions who may already hold

[37] For more details see Ashcraft and Schuermann (2009).
[38] For certain institutions, demand for these securities was further supported by favorable risk weights for regulatory capital requirements.

significant amounts of mortgage credit risk. Importantly, in a housing downturn, the ability of insurance and derivatives counterparties to perform on their obligations and provide loss absorption capacity is likely to be impaired, as it was in the recent housing crisis. All of this would make the supply of residential mortgage credit more fragile and exacerbate concerns about procyclicality.

Finally, it is important to bear in mind that syndicating risk through the capital markets has implications for the incentive alignment in the securitization chain. The more credit risk that is sold into the market, the less "skin in the game" retained by the utility and participating lenders. At some point, increasing the issuance of junior bonds could erode incentives for robust underwriting. This would increase the risk to the government even with the same attachment point for the tail reinsurance.

These risks imply at least four design features for junior bonds. First, if market discipline is an important goal for the junior bonds, then they need to be sufficiently risky – preferably speculative-grade or high-yield bonds – such that investors with the appropriate skill sets will have the incentive to conduct independent due diligence on the credit risk in the bonds. If we continue to assume relatively conservative underwriting standards, then the notional size of the speculative-grade junior bond would be relatively small, or the underlying pool's few credit losses would not be able to generate a loss rate high enough to incent rigorous credit evaluation. Sales of less risky (*i.e.*, investment-grade) junior bonds may provide the utility with some funding advantages during good times, but are less likely to provide the utility and its regulator with independent assessment of credit risks and may be a funding source that is unavailable in periods of market stress.

Small-scale syndication of risky bonds would have two additional benefits. Ensuring that the junior bonds bear sufficient risk is a mechanism for diversifying demand away from the regulated, levered financial firms that may already have substantial exposure to the residential mortgage credit risk. Also, reducing the system's reliance on syndications could reduce the overall cyclicality of the system, given the cyclical nature of credit bond investing. Note that this also implies that the utility should not be expected to sell off junior bonds at all points in the credit cycle.

Second, in order to preserve incentives to robustly monitor and enforce its securitization credit standards, the utility should be required to retain significant credit risk in the underlying pools it securitizes. This is important to address the incentive alignment issues we emphasize throughout this paper. As noted above, completely separating those who hold credit risk from those who set the credit risk standards can lead to a breakdown in incentives to monitor and control risk. This is what occurred in the private-label securitization market in the mid-2000s, and to some forms of subprime

lending during prior housing cycles. The addition of government reinsurance makes it particularly important to align incentives across the private sector participants in securitization, because the government will bear the risk of failure by the private sector to appropriately manage and monitor credit risk. In addition, if the utility is allowed to sell off investment-grade junior bonds, even greater risk retention by the utility is called for, since investor discipline is likely to be weaker. That is, the level of risk retention could be modulated throughout the risk syndication process, such that the proportion of each junior bond that the utility retains could be calibrated to the overall riskiness of the bond in question. Risk retention of higher risk bond tranches might be smaller, but larger risk retention (e.g. 40-50%) would be required for less risky junior bonds.

Third, to address the concerns about leverage and counterparty risks, any external capital raised by the utility to support mortgage credit risk should come in the form of cash paid up front. The utility should be prohibited from selling off credit risk to the private sector in the form of either insurance or derivatives.

Finally, the fourth consideration for junior bonds concerns structure and issuance patterns. If the utility and its regulator wish to use junior bond pricing as an independent market assessment of credit risk, then the bonds need to be structured and issued in a way that promotes market liquidity and transparency in pricing by relying on actual transactions, not just indicative marks by dealers. Because high-risk credit products are typically not liquid instruments, the utility's junior bonds should be highly standardized and feature relatively simple structures. Moreover, fixed-income products generally tend to have highest liquidity and price transparency immediately after they are issued. Market discipline will therefore be greater if the utility issues such bonds at regular intervals (assuming that demand for risky bonds exists). As with the underwriting standards for the securitization-eligible loans themselves, standardization and simplicity of junior bonds will facilitate risk management and market discipline.

Junior Bonds: Impact on Capital and Pricing

How would junior bonds fit into the utility's capital structure? For a given expected loss rate, a set of bonds could be sold that absorbs all expected losses greater than a stipulated amount. That is, the bonds would lie between the expected losses to the utility (traditionally, the residual or "equity" portion of a private-label securitization) and the utility's capital. For example, suppose the utility retains its 10 basis points of expected annual losses, which over the typical 5- to 7-year duration for a vintage amounts to 50 to 70 basis points of first-loss equity. Some estimates suggest

that as much as 1 to 1½ percent of the subsequent loss on a vintage could be sold via a sufficiently risky (speculative or high-yield) junior bond,[39] a range that appears roughly consistent with the structure and pricing of Freddie Mac's recent unrated STACR notes.[40] Consistent with the discussion above, to align incentives to appropriately monitor and manage credit risk for each vintage, the utility could be required to retain a significant proportion of the junior bond. That is, to address the moral hazard associated with government reinsurance, the utility could retain as much as 40% to 50% of investment grade junior bond tranches (and perhaps somewhat less for speculative grade tranches), rather than the 5% minimum required by the Dodd-Frank Act for private securitizations.

However, as long as the junior bond provides a high yield or comprises a small fraction of the overall capital structure, its impact on the pricing of the guarantee fee would be limited. The speculative-grade yields required to induce true market discipline would probably be only modestly lower than the utility's expected return on equity – for example, 8% compared to 10%.[41] In that case, even issuing as much par value of junior bonds as to cover a full 1 percent of a vintage's outstanding notional would result in limited reduction of the guarantee fee. Issuing a more senior investment grade risk-bearing bond, as Freddie Mac did, would lower the guarantee fee more, but again, it would provide less market discipline than the riskier bond, still contribute to procyclicality, further erode the alignment of the utility's incentives for effective risk management and sound underwriting, and thus increase the risk to the government.

The logic of the junior bond's impact is straightforward enough, but we can demonstrate it quantitatively as well. To include the return on the bonds in the fee, we can elaborate on our previous pricing formulation:

$$\textit{Guarantee Fee} = \textit{Capital Charge} + \textit{Administrative Cost} + \textit{Expected Losses} + \textbf{\textit{Bond Return}} + \textit{Reinsurance Fee}$$

[39] Bipartisan Policy Center Housing Commission (2013b).

[40] See "Freddie Mac Sells $500 Million of Mortgage Securities," by Al Yoon and Nick Timiraos in the *Wall Street Journal*, July 23, 2013.

[41] An 8% return is roughly consistent with recent returns on Freddie Mac's STACR bond's M1 tranche which yielded 715 basis points over Libor, as well as historical data from high-yield corporate bonds. Data from Bank of America indicate that the average option-adjusted spread on corporate bonds over 1997-2013 rated BB (the highest speculative-grade rating) has been about 400 basis points. Adding that spread to the June 2013 Blue Chip Survey's long-term predicted averaged 10-year Treasury rate of 4.9% produces a yield of about 8.9%.

Reinsurance Fee = (Assumed Tail Loss – Expected Loss – Capital **– Bond Notional***)*
*/ (Total Notional * Years)*

In the table below, we assume a junior bond sized to 1 percent of the utility's total credit exposure, of which the utility retains 20%, selling 80 basis points of its total credit exposure to the capital markets. The table assumes a tail-event loss rate of 6% and a government reinsurance attachment point after private-sector capital of 3% has been wiped out, while we allow the return on equity to vary from 10% to 15%. The first column in each set of scenarios shows a base case and the latter one shows the impact of adding a junior bond. Note that as the junior bond reduces the capital requirement for the utility, that portion of the guarantee fee that funds the utility's net income declines, and this is only partially offset by the addition of a fee to fund the junior bond's interest coupon payments.[42] The small size of the bond and its relatively high yield imply a limited impact on the overall guarantee fee. This provides further demonstration of how the ownership of the utility affects the total cost of capital and hence, both guarantee fees and mortgage rates.

Sensitivity to High-Yield Risk Bond

Tail-Event Loss	6%			
ROE	10%		15%	
Utility Capital	3%	2.2%	3%	2.2%
Net Income (bps)	37	27	60	44
Junior Bond	0%	0.8%	0%	0.8%
Bond Yield	-	8%	-	8%
Bond Fee (bps)	-	6	-	6
Reinsur. Fee (bps)	10	10	10	10
Guarantee Fee (bps)	67	63	90	80

Capital Accumulation

Our description of vintage-based capital has so far focused on how the structure would function in a steady state. Reaching that steady state would first require a credible transition plan. To simplify the discussion, we will assume that any new utility would start off *de novo*, completely

[42] Because interest on debt is a tax-deductible expense, the impact of the junior bond yield on the overall guarantee fee depends on the assumed tax rate. The lower the assumed tax rate, the smaller the incremental difference between the utility's expected return and the bond yield, and therefore the smaller the impact of the junior bond on the overall guarantee fee.

segregated from Fannie's and Freddie's legacy book of business.[43] This will facilitate the clearest assessment of the entity's business model. We also assume that as a start-up, the utility would build securitization activity slowly, in order to allow the business model, regulatory structure and most importantly, operational infrastructure, to be tested and adjusted.[44] Once again, our intention here is simply to illustrate some fundamental considerations for transitioning to a utility, not to present a definitive blueprint.

There are several approaches that could be taken to provide sufficient loss-absorbing capital for a new vintage of mortgages during the transition phase. The most conservative approach is to require all of the capital backing up the vintage to be paid in up-front. That is, each vintage starts out fully capitalized to absorb up to a 3 percent loss. To implement such a conservative approach would require that the members provide larger up-front equity capital to the utility, that a significant share of the utility's capital structure is financed by junior bonds in capital markets, that originators capitalize some portion of expected guarantee fees up front to the utility, or some up-front capital is provided from past GSE securitization profits (*i.e.*, from the government), to be repaid in subsequent years. The alternative approach would be for the regulatory authority to allow the utility to build up the capital for each vintage over time.[45] Given that losses typically occur over time, this approach could be designed in such a way as to ensure that sufficient capital is in place in time to absorb required losses ahead of the government reinsurance.

To illustrate the first approach, we developed a simple quantitative model for the capital-building phase for the vintages of a *de novo* mortgage securitization utility which slowly builds up its securitization business over several years.[46] We assume that the utility begins by securitizing only a fraction of the new-purchase mortgages that meet its underwriting standards, in this case $100 billion in the first year, rising to $400 billion over 3 years. Assuming the parameters of the baseline

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[43] That is, the losses from existing guarantees would only be offset by guarantee fees from existing books of mortgages – not from a tax on the utility.

[44] A staged transition to new platform, structures and products is long-standing best practice for financial utilities. Such a transition path suggests that the utility will likely begin securitization activities before the existing GSEs are completely phased out. Thus as a transitional issue, the utility will likely need to begin by adopting credit and conforming loan standards consistent with current GSE securitization to guarantee continued access to mortgage credit, and a smooth adjustment in market access and liquidity.

[45] This is an approach that the new municipal insurer Build America Mutual seems to have successfully employed. See "Build America's First Deal Saves Schools $1.25 million," Bloomberg News, by Brian Chappatta, September 28, 2012.

[46] Again, we have not attempted to show here how this capital accumulation model or the question of capital transfer across vintages could be combined with our sensitivity analysis of guarantee fee pricing components, which would require a much lengthier discussion.

scenario labeled "3% Capital" above,[47] our model predicts that it would take 7 years before the utility could distribute profits as dividends. For the exercise, we assumed a constant prepayment rate of 6% a year – a conservative assumption that reduces the interest payments that provide the utility's profits.[48] Assuming that capital equal to 3% of original principal balances must be held for 3 years, the utility would require $3 billion rising to $12 billion in loss-absorbing capital over the first four vintages. Taking into account profits and released capital from previous vintages, net contributions of capital increase over the first four years before beginning to decline. After eight years, the net contribution of new capital turns negative, indicating that the utility can begin to distribute excess capital as dividends. This progression is illustrated below.

Example: Loss Absorption Capital Needs ($ bn)

Year	Initial capital	Internal funds	Net contributions
1	3	0.37	2.63
2	6	1.09	4.91
3	9	2.64	6.36
4	12	4.65	7.35
5	12	6.72	5.28
6	12	8.84	3.16
7	12	10.51	1.49
8	12	12.08	-0.08
9	12	13.56	-1.56
10	12	14.94	-2.94

Assumptions

Capital ratio	3%
Minimum period for full capital	3 years
Fee income	37 basis points
Origination (annual growth)	$100 billion
Origination (steady state, annual)	$400 billion
Prepayment rate (annual)	6%

[47] That is, the presence of government reinsurance, a private capital requirement of 300 basis points, and a guarantee fees of 67 basis points, of which 37 basis points would be free cash flow for retention as capital or distribution as dividends.

[48] Typically, prime conforming agency-backed 30-year fixed-rate mortgages initially prepay slowly, but begin prepaying steadily faster over the first few years in which a vintage is outstanding. The industry standard assumption – set in 1987 by the predecessor of the Securities Industry and Financial Markets Association (SIFMA) – is that, based on housing turnover alone, this acceleration occurs over the pool's first 30 months, before reaching a steady rate of 6%. See Fabozzi (2006), page 557.

Certainly, this model could be refined further. For instance, one could employ a more sophisticated prepayment model or layer in the effects of investing cash after it has accumulated, although in the current interest rate environment the impact would be minimal. Prepaid or curtailed mortgage principal would cease to contribute to a vintage's exposure to credit risk, but only after having contributed guarantee fee revenues that accrued to the loss-absorbing capital pool maintained against a vintage's remaining credit risk exposures. Thus, the faster a vintage's mortgage loans prepaid, the more quickly its capital could be reallocated to help fund the capitalization of new vintages or provide dividends to the members.

IV. OWNERSHIP AND GOVERNANCE

In this section, we explain the advantages of a mutualized ownership structure for a mortgage-insuring securitization utility, before delving into regulatory and other governance issues that apply across ownership models. This builds off our initial description of a lender-owned cooperative in Dechario *et al.* (2011).

Ownership Structure and Incentives

If the government cannot avoid providing a backstop to mortgage credit to address systemic crises of sufficient magnitude, then the future institutional structure should be designed to reduce both the likelihood and the consequences of an intervention. Thus, we have discussed how a securitization utility bearing mortgage credit risk could price its exposure and attract private capital ahead of the taxpayer's loss position, as well as how the use of a vintage-level attachment point for government tail insurance could clarify the path to reducing government involvement following an intervention. However, it is equally important to structure the utility's governance and regulation to address the incentive alignment problems laid out in the first section of this paper, and thereby reduce the deterioration in underwriting that leads to systemic tail events. Prevention requires a careful analysis of the incentive structure embedded in the institutional framework.

A cooperative or mutualized ownership structure is one way of addressing the incentive misalignments inherent in both government insurance and securitization itself. The misalignments arising from government reinsurance are classic "moral hazard" externalities, where government

interventions shield private citizens from the full impact of their actions, such as in deposit insurance, pension benefit insurance, flood insurance, terrorism insurance, and bailouts of "too big to fail" financial institutions.[49] Additionally, the misalignments in all types of securitization consist of a series of conflicts of interest generated by the parceling out of the various steps of the lending process, as documented by Ashcraft and Schuermann (2008) and Adrian and Ashcraft (2012).

The solution in both types of misalignments involves improved regulation, but it should not rely solely on regulation. Any external regulatory regime, no matter how well designed and implemented, faces daunting challenges in terms of both technical difficulty and political vulnerability. It therefore behooves policymakers to seek other mechanisms to augment the regulatory regime.

For instance, the risk-bearing institutions themselves could be redesigned to have incentives for better risk management. One institutional feature that would align lenders' incentives with prudent underwriting is risk retention. Having the lenders mutually own the securitization utility would be consistent with this approach, by vertically reintegrating the lending process and mitigating the conflicts of interest that are inherent across the chain of production in securitization. Note that this applies to both the origination process and the loss mitigation process, where the breakdown in securitization governance has arguably been even more severe.[50] However, the virtues of mutualization extend well beyond the much-rehearsed arguments about risk retention. The literature suggests that a mortgage securitization utility would match both the theoretical criteria for the appropriateness of mutualization and the empirical characteristics of certain well-known financial cooperatives and mutuals.

Cooperatives and Financial Market Utilities

Both cooperatives and mutuals have a long history among U.S. firms. Outside of the financial sector, cooperatives have been common in agriculture, housing, and utilities for physical infrastructure (such as electricity or water). Among financial institutions, savings mutuals, credit unions, thrifts, and mutual funds are all well represented. Most pertinent to our discussion, though, are clearinghouses and central counterparties. These are institutions through which other financial firms have advanced their shared private interests – as well as broader public ones – by providing

[49] For discussion of "too big to fail" and moral hazard in government insurance, see Feldman and Stern (2009), McCoy (2008), Bohn and Hall (1999).
[50] For an empirical investigation of securitization's effect on loss mitigation, see Piskorski *et al.* (2010).

the infrastructure that enables other, more narrowly private enterprise. Notable examples of current or former mutually-owned utilities include clearing and settlement institutions such as the Chicago Mercantile Exchange, the London Clearing House, the Depository Trust & Clearing Corporation (DTCC), and the CLS Group (originally Continuous Linked Settlement). These financial market utilities (FMUs) centralize settlement and manage multilateral counterparty risk for transactions that are fundamental to the financial system, simultaneously reducing systemic risk – that is, risk to taxpayers – and enabling innovation and risk-taking among non-systemic private firms.[51]

A mortgage securitization utility would in some respects resemble other FMUs: without relying on the much-criticized hybrid business model of Fannie Mae and Freddie Mac, it would provide a public good (a low-cost channel for mortgage funding) that has economies of scale. If structured as a cooperative, it could manage its risks through a mutualized loss pool or capital account funded by fees from its members, consistent with the structure laid out in Sections II and III. However, the nature of the goods provided and the risks incurred would differ from typical FMUs.

Most FMUs assume the credit or operational risk associated with clearing and settling trades, and the duration of these exposures often extends no more than a few days (although recent regulatory requirements to centrally clear long-term OTC derivatives contracts such as credit default swaps and interest rate swaps may significantly extend the duration of risk taken by some FMUs). Securitization, of course, entails long-term exposures. While a purely mechanical securitization platform that executes the pooling of loans and issuance of securities might entail exposures of just a few weeks or a few months, a mortgage security guarantor assumes risk exposures that last years. As such, a mortgage-insuring securitization utility would have a *sui generis* credit risk profile closer to that of a bank or financial guarantor, with the latter's monoline risk profile but the former's exposure to the majority portion of each loan.

Criteria for Cooperatives and Mutuals

Despite their long and respectable history, cooperatives have in recent years become less prevalent among U.S. companies, particularly financial companies. A number of financial institutions with mutual ownership, including insurance companies, exchanges, and savings banks, have been demutualized, or transformed into shareholder corporations. While the causes of this shift have

[51] For a description of how central counterparties and clearinghouses concentrate and manage risks, see Duffie *et al.* (2010).

been a matter of some debate, it coincides with a decline in academic attention to the organizational form. Cooperative and mutual structures have not enjoyed a strong following in academic circles in recent decades, having been criticized as providing lower returns, less innovation, less efficient decision making, and more limited access to capital markets.[52] In our previous paper, we surveyed some representative literature that addresses both the advantages and disadvantages of cooperative ownership structures in general.[53]

However, Murphy (2012) has argued that in the unique context of a utility for mortgage securitization, many of the common criticisms of cooperatives and mutuals either would not apply or may actually be virtues. In particular, he notes that some critics have pointed to governance challenges in agricultural and workers' cooperatives in rural communities, despite the fact that a mortgage securitization cooperative would differ in numerous important ways, perhaps most notably by drawing from a fundamentally different membership, one which would have crucial advantages in governance. Moreover, there is nothing in a mutualized structure that would prevent it from adopting the best practices of corporate America to address some of the criticisms, and Murphy provides a useful overview of some of these, as well as some of the best practices specific to cooperatives, particularly with regard to their legal form.

Furthermore, a mortgage securitization utility seems to meet criteria laid out by Hansmann (1996 and 1999) for an effective cooperative. Hansmann argues that the entire range of organization types – from non-profits to shareholder-owned firms – can be understood as expressing the same underlying principle about how to optimize a firm's efficiency. Hansmann articulates this principle as the minimization of the sum total of all transaction costs across the stakeholders in a firm's business activities, including both the aggregate costs of ownership itself (such as monitoring, risk bearing, and collective decision-making) and the aggregate social costs of market contracting (such as information asymmetries and market power relationships). Given the same underlying principles, differences in ownership are then attributable to differences in a firm's objectives, its business process, or its industry's market structure.

Hansmann notes that an ownership structure can be selected to reduce or eliminate the conflict of interest between buyer and seller – precisely one of the concerns policymakers have

[52] For further discussion of these trends in the academy or in industry, see Zanjani (2007), Viswanathan and Cummins (2003), Coughenour *et al.* (2002), and Damodaran *et al.* (1997).
[53] Dechario *et al.* (2011).

enunciated with respect to securitization and shadow banking.[54] More generally, Hansmann argues that cooperatives are most appropriate when the members satisfy the following criteria: they are a relatively homogenous group; are in close proximity; possess sufficient sophistication, frequency of transaction, and economic interest at stake to exert effective monitoring power over their cooperative; and would otherwise be vulnerable to the exertion of market power by the institution if it were owned by outside third parties. A mortgage-insuring securitization utility would seem to satisfy most of these criteria, and for those that it does not, remedial mechanisms are readily available.

Certainly, lenders participating in the mortgage cooperative would be a relatively knowledgeable and sophisticated set of owners and would participate in frequent transactions that would comprise a large proportion of the owners' businesses. These two characteristics would facilitate monitoring and internal oversight of the cooperative, which would also provide a forum for lenders to monitor one another's contributions. Effective monitoring would in turn reduce the risk that mutualization would give rise to free riders – a risk due to the costs of risk-taking being diffused across individual members of the cooperative. Here the literature on cooperatives agrees with the literature on industrial organization, which finds that repeated interaction and mutual observation increase the likelihood of long-term cooperation among firms.[55]

In these respects, participants in a mortgage securitization cooperative resemble the participants in other common cooperatives, such as housing, where the owners' detailed knowledge and frequent observation of the cooperative's operations facilitate monitoring. At the same time, the greater managerial sophistication of mortgage-lending firms would provide an added advantage in monitoring commensurate with what would clearly be a more complex business model. Unlike many other financial mutuals, such as savings mutuals – which are among those that have been held up as examples of less efficient governance[56] – mortgage lenders would be both expert and actively engaged in the securitization cooperative's business, since they would supply its raw materials of residential mortgage loans. They would also have powerful incentives to see the cooperative run

[54] See Hansmann (1999), pages 389, 391-392.
[55] See "Industrial Organization and Systemic Risk: an Agenda for Further Research", speech by Federal Reserve Governor Tarullo, September 15, 2011.
[56] See Henehan and Anderson (2001) and Frederick (1997).

well, due to the crucial service and large business exposure it would provide by lowering capital costs and supporting their origination-based fee income.[57]

Note that lenders differ importantly from shareholders of large, often opaque, publicly-traded companies. Most shareholders are likely to lack detailed knowledge of mortgage lending and securitization. Furthermore, shareholders typically do not face as concentrated an exposure to the company as lenders. Thus, shareholders are likely to have weaker capacity and incentives for oversight, as evidenced by their track record with Fannie Mae and Freddie Mac.

Lenders, both large and small, participating in the mortgage cooperative would also be a relatively homogenous group with respect to their interests in two objectives: maintaining access to a common low-cost funding channel and avoiding exploitation by monopolistc or oligopolistic securitizers and credit enhancers. This homogeneity is important primarily because it would reduce the challenges of collective decision-making, which some commentators have considered one of the primary weaknesses of cooperatives.[58] Larger members' interests may diverge from smaller members' to the extent that their greater use of the cooperative would leave them with more capital at risk and likely provide them with more voting rights. While this raises important questions about market structure, competition, and market access that we will discuss below, it does not change the shared interest of lenders of numerous types – small community banks, large commercial banks, medium-sized regional banks, mortgage brokers, and others – in mortgage securitization and credit enhancement, which may leave them homogenous enough for the purposes of Hansmann's criteria. In this sense, the monoline nature of the securitization utility supports its mutualization.

Mutualizing Mortgage Securitization

In addition to these traditional criteria for cooperatives, there are a number of other ways mutualization may be particularly well suited to the peculiarities of a mortgage securitization utility and to address common perceptions of what went wrong in the GSEs' institutional arrangement. A broader point is that cooperative and mutual structures provide a *different set of trade-offs* relative to a shareholder-owned corporation, and it is critical to evaluate those trade-offs in the context of the utility's mission.

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[57] For the role of members' expertise in cooperative governance, see Autry and Hall (2009), pages 42-49. See also Gould Ellen and Willis (2011), Green and Schnare (2009), and Flannery and Frame (2006). For the importance of members' proportion of exposure to a cooperative, see Hansmann (1999), page 398.
[58] For a brief discussion of some of these dynamics, see Hansmann (1999), pages 393-395.

Some studies note, for instance, that the historically lower rate of return provided by cooperatives relative to shareholder corporations indicates weaknesses in governance.[59] However, as Murphy (2012) notes, there is a trade-off here in that cooperatives also tend to take less risk and as a consequence fail less frequently. The reason is simple – by diffusing the profits across members, cooperatives also diffuse the returns to risk-taking.[60] In fact, this dynamic highlights a fundamental difference between the incentives faced by shareholder corporations and cooperatives. Third-party shareholders invest in a company primarily to obtain a rate of return or diversify the risk profile of their investment portfolios, whereas the members of a cooperative may have other goals in addition to or instead of using the mutual as a profit center unto itself.

For instance, a cooperative may be seen as a service provider for its members, helping them to gain access to higher-quality or lower-cost products or services, which they then use as inputs to their more explicitly revenue-generating business lines.[61] In the case of mortgage securitization, the service provided to members consists of access to the low-cost funding channel of securitization markets, particularly via the TBA market, and lower capital costs associated with holding mortgage-related assets. The return to the members may take the form of efficiency gains from stable funding and cost minimization, in addition to or instead of dividends, capital appreciation, or the expansion of products and market share. Given these supplementary value propositions, the modest historical returns on equity cited in Section III may actually overestimate the return on equity lenders would require to participate in such a cooperative structure. And, as noted in a previous section, the mortgage utility's return on equity is among the most important determinants of guarantee fees, and thus, the primary mortgage rate faced by borrowers.

In fact, critical infrastructure can benefit from a cooperative's conservative approach. In the case of physical infrastructure, utilities' business models are characterized by low risk and even outside shareholders accept a correspondingly lower return, since the determinants of both supply (for example, water or electricity) and demand (generally revolving around demographics) are slow-moving and reasonably predictable. To a lesser extent, that applies to FMUs, and still less to an FMU taking long-term credit risk, since both supply of and demand for credit can fluctuate widely

[59] See Cole and Mehran (1998).
[60] See Esty (1997), Lamm-Tennant and Starks (2001) and Lee *et al.* (1997).
[61] See Hansmann (1999), page 398, for a discussion of members' multidimensional relationship to a cooperative.

with broader economic, demographic, and financial conditions[62]. Nevertheless, if the securitization utility maintains relatively conservative underwriting standards, both the risk it assumes and the return demanded by its investors will be moderated.

From a governance perspective, one of the values of external shareholders is in driving change. Indeed, shareholders push their corporations to build market share on a continuous, open-ended basis, in order to maximize the profits that the corporation can dividend out to them. This is, in fact, the heart of most formal models of the fundamental value of a firm, as well as the engine for undertaking new risks. Indeed, lack of innovation is a frequently-cited criticism of cooperatives, with critics noting that large, diffuse memberships can lead to coordination problems and slow, inefficient management.

However, innovation, expansion, and risk-taking would not be among the mortgage utility's primary goals and would, in fact, stand in tension with the objective of providing a narrow but critical infrastructure.[63] While innovation may remain a vital activity in mortgage markets, the point is that it should occur outside of the central infrastructure, which should take on new duties only after careful deliberation. Innovation could still take place among lenders with mortgages that they intend to hold on their balance sheets. For an FMU, though, financial stability – the ability to avoid failure – is more crucial than the ability to innovate, especially where the product offering is mature.

Indeed, an over-emphasis on profit-making and innovation likely contributed to the GSEs' excessive size, risk, and ultimately, their failure. Many analysts have reached the conclusion that one of the most significant factors contributing to the GSEs' failure was their decision to guarantee lower-quality mortgages in 2005-2007 in a bid to regain market share that they had lost to the private-label securitization market.[64] Many have likewise suggested that the broader proliferation of mortgage loan types and mortgage-related securities in the 2004-2007 period constituted a socially inefficient substitution of product differentiation for price competition.[65] To the extent that the deterioration in underwriting may be obscured by innovative but opaque security structures, then placing less emphasis on the introduction of new mortgage products could in the long run be an advantage of a cooperative structure.

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[62] Over shorter time frames, the situation is somewhat more complex, as electric utilities face the challenge of their peak-load management amid sharp and unpredictable fluctuations in demand. Nevertheless, the generalization applies over the larger periods of time relevant for mortgage credit risk cycles.
[63] Holmstrom (1999), pages 411-414.
[64] See Thomas and Van Order (2010) and Jaffee (2010).
[65] Tarullo, *ibid.*, cites Anderson *et al.* (1992) in commenting on this substitution, although he does not himself specify whether he considers mortgage lending in the previous cycle to have displayed this dynamic.

Indeed, the members of a lender-owned cooperative could see aggressive innovation in securitizing new mortgage products as cannibalizing their own proprietary business lines conducted outside the cooperative. While the cooperative would remit the profits to its owners, that diffuses the profits (as well as the control of the product line), reducing a member's ability to gain competitive advantage. Thus, cooperative owners would be significantly less likely than outside shareholders to encourage expansion of business lines. Instead, the owners would likely seek to keep this cooperative focused on a narrow mission of providing securitization services for standardized mortgage products. As a new mortgage product becomes standardized, and the associated lender profit margins are competed down, the utility's economies of scale and liquidity advantages could incent members to support moving the product into the cooperative (subject to regulatory approval). In that case, innovation could occur outside the cooperative and over time lead to a lagged adoption within the cooperative.

Note that having a common purpose with a relatively narrow scope is one form of the homogeneity that appears to be crucial to the success of a cooperative or a mutual. Indeed, innovation tends to expose divergences in the interests of members of a cooperative and make governance more difficult.[66] Maintaining focus on a narrow mission of efficiently providing a specific service, rather than aggressive profit growth, would also yield several benefits from a public policy perspective. First, it would be consistent with prioritizing financial stability over innovation at a funding utility. Second, it would allow for more accurate modeling and pricing of the government reinsurance on vintages. Finally, it would also facilitate the effective oversight and monitoring of the cooperative by both the owners and regulatory authorities.

In addition to realigning the incentives for lenders, mutualization of ownership would help consolidate external supervision and reduce an entire layer of profit margining, by lowering the total transaction costs and displacing securitizer's focus from purely monetary profits. Of course, pass-through of these savings to individual household borrowers is not guaranteed. It is closely linked to the issues of competition and the relative market access of larger and smaller lenders.

Access to the Cooperative and Market Structure

Some commentators have raised concerns about the risk of a few large lenders dominating a cooperative and controlling access to the TBA market, which some consider to be *prima facie*

[66] See Holmstrom (1999) and Hansmann (1999), page 394.

grounds for rejecting a cooperative structure.[67] The risk of the larger lenders using the cooperative to amplify their market power could put both smaller lenders and borrowers at a disadvantage. The underlying dynamic is that even if a cooperative removed or reduced a margin of profit from the mortgage-security production pipeline, that value still might be captured by a large stakeholder or group of stakeholders exercising market power. For evidence from another market, Genesove and Mullin (2001) provide a cautionary tale of how communication through a trade association facilitated collusion in the sugar industry.

However, while a cooperative might reflect the pre-existing market concentration among mortgage lenders, it need not exacerbate this concentration. As long as there is robust competition among the largest, most influential members of the cooperative, they will have strong incentives to monitor one another, and both the governance structure and the regulatory structure could be set to minimize collusion among the larger members. As Murphy (2012) and Hansmann (1999) explain, there are several best practices in standard corporate governance that could be readily adapted for a mortgage cooperative. The objective of these practices would be to facilitate not only fair and open access, but broad participation in the cooperative, including by smaller lenders. Arguably, with such practices in place, the potential market power derived from control over a major funding channel would be better distributed across even an imperfectly competitive landscape than under the previous GSE duopoly. Indeed, diffusing such market power is what Hansmann means by lowering the aggregate costs of contracting and reducing economic actors' vulnerability to market power.

The most intuitive guiding principle would be to keep barriers to entry low. For example, policies regarding volume-based discounts on guarantee fees could be set to encourage small lender participation.[68] For a cooperative, this principle could also apply to the membership fees (including the paid-in capital). In practice, both smaller lenders and the cooperative itself may prefer for smaller lenders to pass their mortgages to the cooperative via correspondent relationships with larger, aggregator banks, for several reasons (operational/logistical, relationship management, *etc.*). That is, the larger banks would buy the loans from the smaller lenders before selling them on to the cooperative.

To supplement the external force of regulation, structural incentives could also be incorporated in the institutional design. The literature on industrial organization indicates that, in

[67] Woodward and Hall (2009), page 6. See also Letter of William B. Shear (November 15, 2010) to various Congressional Committees regarding (Government Accountability Office 2010).
[68] See Murphy (2012), page 8, and Morgenson and Rosner (2011), page 55.

order to obtain good pricing on these correspondent transactions, smaller lenders could exercise influence in the utility either by direct participation and voting or by leaving the cooperative and using an outside funding mechanisms. Drawing on Hirschman (1970), Hansmann (1999) characterizes this dynamic as the difference between the power of "voice" and the power of "exit," and notes that cooperatives provide owners more of the former than the latter, in contrast to shareholder-owned corporations. In this respect, homogeneity of membership is important for the cooperative to lower the costs of "voice" or collective decision making through voting.

What would be the smaller lenders' outside option for leaving the cooperative? Multiple utilities could be established, potentially even individually designed to accommodate different segments of lenders. Alternatively, smaller lenders might establish a conduit of their own, or obtain funding from an existing institution where they already enjoy influence, such as the Federal Home Loan Bank System (FHLBs).[69] In designing the remedy, two of the key questions are precisely how much larger and smaller lenders' interests are aligned with respect to a utility for mortgage securitization and insurance, and how the relative costs of voice and exit for each of these sets of institutions may shift over time.[70]

Aside from price regulation and sound outside options, there are a number of other mechanisms that can increase the responsiveness of cooperatives to the full breadth of their membership. One is a federated structure or multi-level mutualization, with governance mutualized among specific classes of constituents.[71] This may be particularly useful in light of the challenges presented by a large number of members, which can lead to the coordination difficulties some critics of cooperatives have attributed to diffuse ownership.[72]

In addition, to strengthen the bargaining position of smaller institutions, board structure, regulatory remedies, and voting structures, such as cumulative voting could be employed. Under cumulative voting, shareholders can multiply their shares by the number of vacancies on the board of directors and cast all their votes for only some or one of the candidates.[73] Other alternatives

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[69] This is an area for further research. The Treasury white paper on housing finance reform in February 2011 implied that policymakers should focus the Federal Home Loan Bank System – a well-known lender-owned cooperative – on supporting primarily smaller financial institutions by limiting the participation of larger institutions.

[70] See Holmstrom (1999) for a discussion of the influence on corporate form of shifting costs of voice and exit in various industries.

[71] See Hansmann (1999), page 397.

[72] See Hansmann (1999).

[73] Murphy (2012) draws on a variety of sources to describe and explain the value of cumulative voting. In contrast, under the alternative of "straight voting", shareholders vote separately on each vacancy, allowing the

include reserving seats on the cooperative's board of directors, as well as its membership and risk committees, such that smaller members could ensure that their views on access are incorporated and that risk management is not used as an oblique way of limiting their access.

Finally, membership stakes may be monitored and updated. Some retained earnings may be earmarked for individual members before the periods in which they are distributed as dividends. Because they reflect previous years' activity, over time, these capital accounts may diverge from current patterns of usage if dividends are not distributed frequently enough. This would be an acute concern if members' voting rights were linked to their capital accounts.[74]

Secondary Market Access and TBA Trading

As we noted in our earlier paper, scale economies in securitization of standardized products and scale economies in banking suggest the proposed securitization utility may be a natural monopoly.[75] Moreover, access to the TBA market where liquidity, fungibility, and homogeneity of securities is paramount would be the primary attraction for lenders to participate in a mortgage securitization cooperative.[76] Both imply the optimal number of utilities is likely to be quite small.

Some commentators have raised concerns about the risk of a limited number of large mortgage securitization utilities being too big to fail.[77] However, nearly all types of financial market infrastructures – including the clearing and settlement utilities noted earlier – are highly concentrated, with exceptionally large market shares.[78] The large size and concentrated market share of FMUs – including the structure proposed in this paper – reflect large economies of scale or "natural monopolies" in their industries. In addition, for the securitization utility proposed here, the vintage structure for managing credit risk and for the provision of explicit government tail risk insurance is designed to address the too big to fail concern by insuring that the cooperative is still viable even when the tail insurance triggers.

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larger shareholders to block smaller ones on each vote. See Murphy (2012) for a discussion of the literature on cumulative voting in general and as applied to cooperatives, notably Packel (1970).

[74] See Autry and Hall (2009).

[75] See Financial Stability Oversight Council (2011) and Mester (2010).

[76] See Vickery and Wright (2013).

[77] See Swagel (2010), Terris and Hochstein (2010), Gould Ellen and Willis (2011) pages 323-324, and Acharya *et al.* (2011), page 158. See also Woodward and Hall (2009).

[78] For this reason, all of the financial market utilities referenced in this paper have been designated systemically important financial market utilities and are subject to enhanced prudential oversight under Title VIII of Dodd-Frank.

There are drawbacks to the alternative of having a large number of mortgage security issuers. As noted earlier, a large number of securitization issuers would encourage product differentiation and likely fragment the TBA market, reducing the liquidity benefit in secondary MBS trading and thus raising primary mortgage rates. Not only would fewer utilities reduce the risk of such fragmentation, but they would have incentives to create larger and more diversified pools of mortgages across regions and across lenders. This would likely reduce the degree of adverse selection in the current TBA market, enhance liquidity, and potentially reduce mortgage costs to households.

Also, as we argued in section I, a large number of national mortgage security issuers would be unlikely to reduce systemic risk or protect the taxpayer, since the correlations of their financial conditions would likely be very high for a systemic event that triggered the government-backed reinsurance. All of the mortgage security issuers would have similar risk profiles. In short, there would be few if any systemic risk benefits to a large number of similar monoline securitization firms, while there might be a cost to borrowers in the form of higher primary mortgage rates.

Mutualizing Credit Risk: Capital versus Representations and Warranties

Mortgage securitization entails a system of repeated transfers of credit risk over extended periods of time. While mutualization would provide members with incentives to enforce a set of credit standards, it also would run the risk of free rider problems. One solution to mitigate this risk would be to limit the degree of mutualization, such that members are forced to internalize more of the consequences of their behavior. Member-specific reserve accounts are a possible solution, although those could pose a challenge for true-sale accounting, which is needed to make securitization viable.

Other mechanisms are available. For example, representations and warranties ("reps and warrants" in market parlance) in the loan sale agreements are a traditional mechanism for enforcing credit standards and allocating losses. In a securitization utility, such clauses would have the effect of partially demutualizing the credit risk. While this could mitigate free rider dynamics and protect the broader membership from the bad actions of a single lender, it would be important to redesign the reps and warrants to avoid costly *ex post* negotiations. This favors limited duration reps and warrants with *ex ante* quality testing of underwriting standards. Members would have to pass the quality control tests for each new vintage and would also agree to repurchase at par any mortgages that

experience early delinquency problems. An important objective would be to promote a clear transfer of the credit risk to the cooperative and avoid litigation of losses after the fact.

This proposed approach is informed by the controversies in 2010-2012 over the GSEs' and mortgage investors' demand for lenders to repurchases loans they had sold into securitizations. That experience underlines the fact that open-ended reps and warrants based on procedure, not credit performance, now appear to be an inefficient – if not ineffective – means of aligning incentives of lenders and securitizers.[79] Open-ended reps and warrants may also undermine the benefits from mutualization of losses in terms of promoting internal monitoring and aligning members' incentives.

Board Oversight

One of the fundamental governance questions regarding the governance of any mortgage securitization utility would be how to structure the board of directors and its committees. Drawing on best practices in corporate governance as laid out by several industry groups, Murphy (2012) has several recommendations for the board of directors that would help ensure that the interests of smaller lenders would be effectively represented in a cooperative, although some also apply to other corporate structures.[80] This includes a requirement that the chairman and at least 1/3 of the cooperative board members be independent (in the sense that they are not employed by any of the lenders), as well as that an independent board member hold the swing vote on the committee for selecting new board members. As an empirical matter, cooperatives frequently require that a majority of their board members be drawn from institutions that are members of the cooperative, apparently to reduce principal-agent problems. Cooperatives also frequently prohibit or limit participation on the board by the cooperative's managers – which differs markedly from shareholder-owned firms. Members could also be given the ability to remove appointed Board members.

In addition to addressing the market access issues discussed above, board members could also be required to include representatives from community advocates and the academic community. Murphy proposes an audit committee to which an internal audit function directly reports, a risk management committee to which a risk manager directly reports, as well as a compensation committee, a governance committee, and an executive committee. To encourage coalition building,

[79] For a discussion of the weaknesses of representations and warranties as a model for aligning incentives in the "originate to distribute" model of securitization, see Raskin (2011).
[80] See also Business Roundtable (2010), American Law Institute (2001), and Brancato and Plath (2005).

no single group of members should comprise more than half of board votes. The board should be able to audit individual members to ensure compliance with membership criteria and suspend or expel them based on evidence of fraud or insufficient capital.

Regulatory Oversight

Another of the fundamental governance questions regarding this regime would be how to structure regulatory oversight. This includes both the operations of the securitization utility and the pricing of the government systemic reinsurance, and in each case, where to allow regulators discretion and where to lock standards into statute. There is an inherent tension between providing the regulator flexibility to make decisions in light of changes in the market conditions versus reducing scope for regulatory capture or erosion of credit standards.[81] Given the importance of such an institution to the financial system, and the susceptibility of housing credit to political forces, an inspector general may be desirable to help avoid regulatory capture.

The core mission for the regulator of a securitization utility would be to administer the tail risk reinsurance fee and provide supervision of the guarantee fee. As discussed above, regulation of capital reserves would be a particularly crucial component of the supervisory regime. Drawing from bank supervisory practices, the regulator should have powers to set standards, ensure the utility operates in a safe and sound manner, and pursue enforcement with a "prompt corrective action" framework. As discussed earlier, the regulator should oversee selling of credit risk externally through junior bonds to generate external market validation of the cooperative's underwriting standards.

In addition to taxpayer protection and the pricing of government reinsurance, the regulator would have the following responsibilities:

- Approve the risk-based pricing and capital framework for guaranteeing mortgage loans – in market parlance, the guarantee fee and the "credit box" for the trade-offs among credit characteristics of loans eligible for the utility's securitization and insurance;
- Oversee the utility's risk management framework, including the utility's measurement and control of credit risk, operational risk, and market risk;
- Approve any new mortgage products or lines of businesses;

[81] For instance, many other countries restrict certain basic credit standards such as maximum allowed LTV ratios via statute.

- Review the representations and warranties stipulated in the utility's agreements to purchase mortgage loans, with the twin goals of enhancing both underwriting and loss mitigation programs;
- Conduct exams of the utility and require periodic stress tests to ensure capital adequacy using a range of economic scenarios impacting homeowners (including unemployment, house price paths, and loss severity rates) and ensuring the bankruptcy remoteness of vintages' legal trusts;
- Approve distributions of capital to members or transfer of capital across vintages;
- Ensure that membership access is fair and open with broad representation either through direct membership or a correspondent bank;
- Set investment guidelines for any liquidity portfolio held by the utility.

Finally, the regulatory should supervise any portfolios or loans or securities held by the utility. Some balance sheet capacity might be needed for providing warehousing for loans awaiting securitization, or for loans in foreclosure, being modified, or undergoing other loss mitigation activities. A carefully supervised repository for troubled loans could promote greater standardization in foreclosure and loss mitigation practices, as well as facilitate customized modification programs targeted at specific market segments. Because of the unique performance characteristics of troubled loans, such a repository could also support the homogeneity and liquidity of the TBA market, which would otherwise price the risk of these loans being delivered into TBA contracts. However, the regulator would have to enforce strict rules to prevent recreation of the GSE-style retained portfolios and there may be value in a more thorough analysis of the potential impacts on the TBA market.

V. CONCLUSION

In this paper, we have explored in detail the capital structure and governance of a financial market utility for mortgage securitization, and how they interact with the question of government reinsurance for systemic risk. We have argued that the government is ineluctably exposed to the full depth of true tail losses, and there are only four ways to improve its risk profile: (1) charge a price

for bearing that risk, (2) attract and maintain the participation of private capital in sharing risk, (3) establish a clear mechanism for reducing government involvement following intervention, and (4) prevent systemic tail events by addressing the conflicts of interest inherent in government reinsurance and in securitization itself. These constraints have led us to explore the unique features of a vintage-based guarantee and a mortgage securitization utility that would itself have a unique function. A vintage-based capital structure could mitigate the procyclicality of mortgage credit, providing greater clarity about the timing and terms of intervention than institution-level reinsurance, and thereby give investors and issuers robust incentives to continue participating in the utility. In addition, vintages would also help focus the government reinsurance more narrowly on truly systemic risk than a security-based attachment point would.

To frame the question of capitalization, we presented several examples to analyze the relationships among guarantee fees and various key assumptions. We demonstrated how selling off an appropriately risky junior bond to the capital markets would have only a modest impact on the guarantee fee, and how the informational and market discipline value of such transactions may vary with the level of risk transfer. In contrast, in exploring the sensitivity of the guarantee fee to other key parameters, we found that the guarantee fee – and therefore the mortgage rate faced by borrowers – is most sensitive to the required capital ratio and the expected return on equity capital. The importance of the return on equity underlines the importance of ownership structure. The system's source of capital goes hand in hand not only with its cost of capital, but also with its incentive structure and the nature of the market discipline it engenders. In that context, we noted that mutuals feature lower risk and lower returns on equity.

We explored the appropriateness of a mutualized ownership structure to align the private incentives with the public interest, to employ more than just external regulation to address the incentive misalignments inherent in government reinsurance and in securitization itself. The vertical integration of the utility would help address the conflicts of interest along the chain of production (as well as loss mitigation) in securitization. As for moral hazard, if the government provides a backstop to mortgage credit on the downside of a systemic event, then the future institutional structure must both mitigate the consequences of intervention and decrease the likelihood (or frequency) of intervention. Thus, the utility's governance and regulation should be designed to align incentives and prevent deterioration in underwriting in advance.

We discuss a number of ways mutualization may be particularly well suited for the peculiarities of a mortgage securitization utility. Notably, such an institution would meet some of the

criteria for successful cooperatives as laid out in the academic literature. In addition, the weaker incentives for innovation found in cooperatives go hand-in-hand with a reduced tendency to take risk. Much as with a centralized counterparty or clearinghouse, low risk and less focus on innovation are actually virtues for this critical infrastructure. More practically speaking, cooperatives' reduced emphasis on earnings and market share seem to respond to many observers' diagnosis of what went wrong in the previous institutional arrangement. We suggest that a mutual utility, with incentive alignment and appropriate governance controls, could allow robust competition among lenders for mortgage origination, although a full assessment of the competitive dynamics in the market for mortgage lending is beyond the scope of this paper. We further explored how the governance structure for the cooperative could be designed to address the typical concerns raised in the literature. While certainly not riskless, our proposed utility structure is less risky than most alternatives.

The economics of housing finance are sufficiently complex that there may be no ideal model. Indeed, in several cases, key objectives for the system, such as market discipline and systemic robustness, stand in tension with each other. GSE reform is likely a question of identifying the most workable, not the first-best, design – even on the economic merits, before considering the notoriously challenging political dimensions. If that's so, policymakers will have to weigh the benefits and risks associated with each proposed model and focus on their preferred tradeoffs. We hope that our diagnosis of the most urgent policy risks and our formulation of potential remedies will stimulate and inform precisely such reflection and debate.

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Figure 1. Agency Vintage Cumulative Default Rates

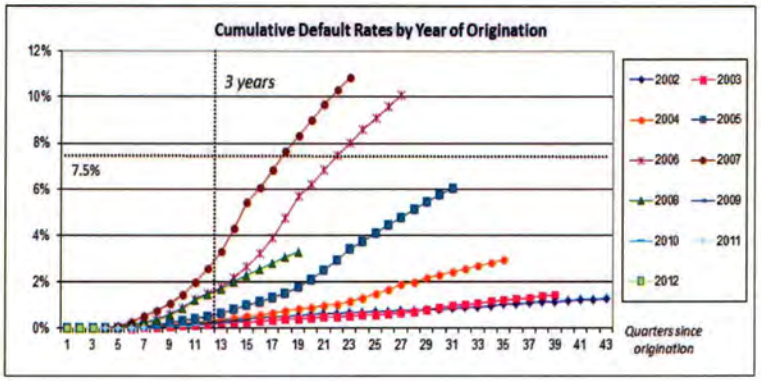


Figure 2. Utility's Capital Waterfall

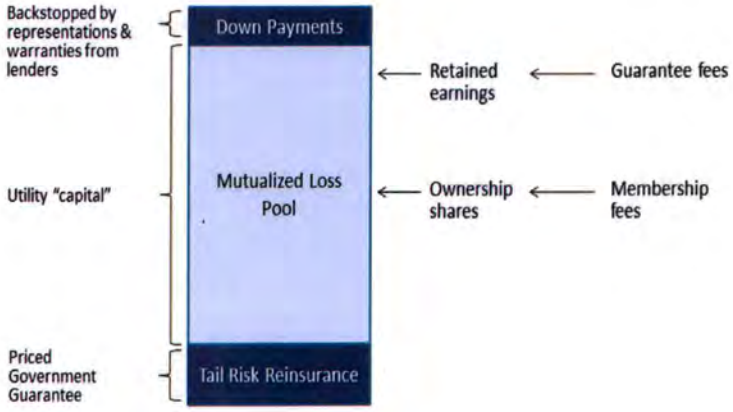


Figure 3. Utility's Vintage-Based Capital Waterfall

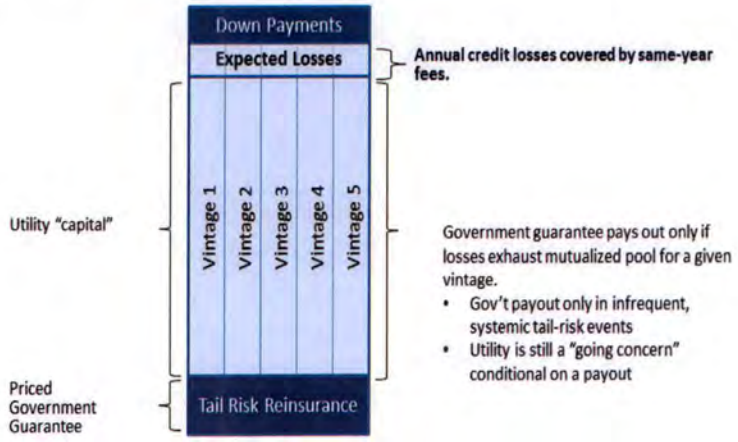
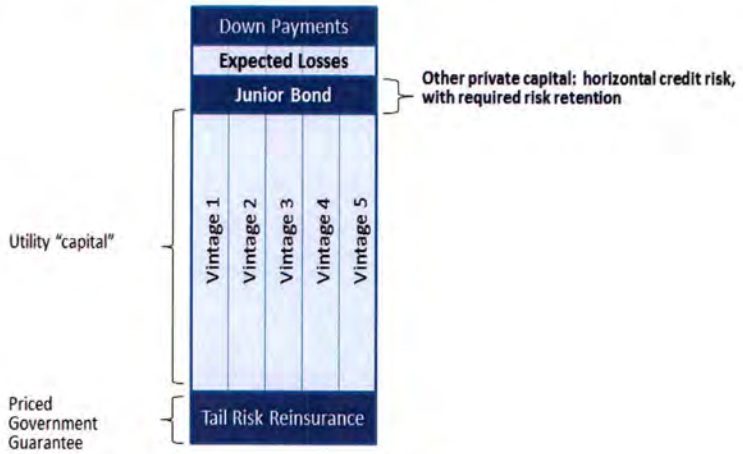


Figure 3. Utility's Vintage-Based Capital Waterfall with Junior Bond



PREPARED STATEMENT OF PHILLIP L. SWAGEL

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Chairman Johnson, Ranking Member Crapo, and Members of the Committee, thank you for the opportunity to testify on housing finance reform. I am a professor at the University of Maryland's School of Public Policy and a faculty affiliate of the Center for Financial Policy at the Robert H. Smith School of Business at the University of Maryland. I am also a senior fellow with the Milken Institute's Center for Financial Markets and a visiting scholar at the American Enterprise Institute. I was previously Assistant Secretary for Economic Policy at the Treasury Department from December 2006 to January 2009.

It is extraordinary for any private financial activity, asset, or firm to have a Government guarantee. Any such guarantee should be strictly limited and with the terms and conditions that reflect the fact that it should be rare to have arrangements in which American taxpayers come to the rescue of those who made bad investments.

I see housing finance as an instance in which having an explicit Government guarantee is a better policy than the alternative of not having one. Policy makers would feel obligated to intervene if mortgage loans were not available to Americans during a future financial crisis. This intervention would take place for social reasons because of the appropriately special place of housing in our society, and for economic reasons that reflect the importance of the housing sector for investment and consumption. Government officials would feel obligated to intervene if the market for mortgage securities locked up because these represent a vital part of U.S. financial markets and because problems in secondary markets would impair the flow of new mortgage origination.

This means that intervention by the Government is latent. It would be better to formalize the Government guarantee and have it priced so that taxpayers are compensated for providing a backstop in housing finance rather than allowing the Government guarantee to remain implicit and unpriced. Unfortunately, it is not a simple matter to do away with the implicit guarantee in housing finance—it is not enough to simply say that there is no guarantee. A housing finance reform in which the Government ostensibly does not guarantee housing would inadvertently re-create the implicit guarantee that was one of the worst aspects of the previous failed system. The implicit guarantee made it possible for private shareholders and management to receive the upside when Fannie Mae and Freddie Mac did well, but left taxpayers with the bailout when the firms faced collapse in 2008.

Any Government guarantee creates moral hazard. This is not a problem to solve but a fact of life. The proper policy focus is on how to minimize the moral hazard, recognizing that the attendant incentives exist.

The question then is how to best structure the Government involvement in housing finance to meet the goals of ensuring that mortgage financing is available across market conditions while protecting taxpayers from another costly bailout and guarding the U.S. financial system and overall economy from the systemic risks that arose in the past failed system. In doing so, it is important to ensure that the new housing finance system is durable. A future financial crisis is inevitable despite the best efforts of regulators and supervisors. Housing finance reform should take this into account.

In looking at the decisions involved with having the Government provide a guarantee on MBS that is secondary to considerable private capital, an overarching point is that it is vital to spell out what happens when the Government must make good on its guarantee. To be sure, the guarantee should be designed so that the taxpayer liability is far behind private capital. But eventually there will be another crisis severe enough to activate the guarantee; otherwise, there is no point in having one. With this in mind, I see the following key decisions in designing the guarantee.

Switch the Guarantee to MBS Rather Than Entities

The U.S. Government now effectively stands behind Fannie Mae and Freddie Mac's insured mortgage-backed securities by guaranteeing those two firms as ongoing entities. It would be preferable to have the guarantee formalized—made explicit—and switched instead to attach to particular MBS rather than firms. This has several advantages. The first is that this change would allow for entry and competition into securitization and guaranty. In the past, the implicit Government guarantee allowed Fannie and Freddie to fund themselves at an advantage of around 100 basis points compared to other financial firms. But the market power of the two firms meant that only around half of this implicit subsidy passed through to mort-

gage holders in the form of lower interest rates, with the balance going instead to shareholders and management of the two GSEs. Recent research provides further evidence that a lack of competition in the mortgage industry leads to higher interest rates for homebuyers.[1] Entry and competition will help prevent this situation, with competitive pressure pushing to homeowners any implicit subsidy from underpriced Government insurance.

Entry and competition will further help address the problem of Too Big to Fail institutions. In the fall of 2008, policy makers felt obligated to avert the collapse of Fannie and Freddie to avoid a situation in which American families could not obtain mortgage lending and the banking system needed to be recapitalized en masse to offset losses on GSE securities. Allowing additional firms to participate in the activity of securitization and guaranty for mortgages that qualify for Government backing will ensure that these firms can fail without the need for a bailout.

At the same time, it is possible that a future financial crisis will lead to the failure of many or even all firms that perform securitization and guaranty. In this case, it is likely that the Government would feel obligated to intervene to keep one or more in operation. This could be done using the authorities in the Title II Orderly Resolution Authority of Dodd-Frank. Under Title II, the Government could put money into a failing securitization and guaranty firm to ensure that at least one such entity remained operational to allow the continued flow of mortgage financing. A natural course of action would be for the assistance to be withdrawn as other private sector firms are constituted to enter the market. The Government eventually would be repaid for any losses suffered as a result of this assistance, in this case by a tax on the rest of the financial system. There is thus the ability to maintain the flow of mortgage financing even in the face of industry-wide losses that swamp all participants in mortgage guaranty. A system of multiple firms each of which is allowed to fail is fully consistent with the idea that securitization activity must continue throughout a crisis.

The alternative to allowing competition and entry is to have a few firms—just one or two would be natural given the scale economies involved—that are guaranteed as entities. Such an arrangement would ensure the continuity of mortgage securitization, but give up the benefits of competition and innovation. A securitization cooperative in which the Government backstop applies one vintage at a time likewise would miss out on benefits of competition for consumers and limit the extent to which mortgage industry participants suffer appropriate consequences in the event of failure. Continuity of the industry is important, but this can be assured without giving up other benefits of housing finance reform.

Ensure Considerable High-Quality Private Capital Ahead of the Government Guarantee

Having substantial private capital in the first-loss position will both protect taxpayers and provide market participants with an incentive for prudent behavior in mortgage origination. It would be useful to have private capital in a variety of forms and through multiple mechanisms. In particular, private capital should be present at both the level of the individual loan through homeowner downpayments and private mortgage insurance, and at the level of mortgage-backed security. For individual loans, the salient role of underwater borrowers since the collapse of the housing bubble has made clear the importance of homeowner equity. The collapse of Fannie and Freddie likewise made clear the importance of capital at the level of the securitization. MBS-level capital can be put in place in through both common equity of the firm that performs the securitization and purchases the Government guarantee, and through various forms of risk transfer. This could include subordinated MBS tranches or other capital market structures such as credit-linked notes, or through capital provided by MBS insurers, provided that this insurance capital is strictly overseen to ensure that it represents risk-bearing capacity.

The key in all cases is to ensure that the private capital can bear losses when they come, recognizing that this could be in the midst of a difficult financial market environment. In the recent financial crisis, insurance capital was problematic in some instances, as highly rated insurers such as AIG did not have the financial wherewithal to make good on their commitments when needed. This suggests a preference for equity capital and for capital market structures such as subordinated securities in which it is clear in advance that the financial resources exist to bear losses. It is possible for investors to use leverage in capital markets transactions—the purchasers of a credit-linked note, for example, could borrow the funds with

[1] David Scharfstein and Adi Sunderam, 2013. "Concentration in Mortgage Lending, Refinancing Activity, and Mortgage Rates", April. Available on *ttp://www.people.hbs.edu/dscharfstein/Mortgage_Market_04-2013.pdf.*

which to take on that risk. But such concerns are omnipresent—the risk will exist somewhere, and ultimately the regulators of other industry participants must be relied on to ensure the soundness of the banking system (if this is the provider of leverage in housing). The key for housing finance reform is for the housing credit risk taken on by private investors ahead of the Government to be clearly identified and funded.

Ten-Percent Capital Requirement

The Housing Finance Reform and Taxpayer Protection Act (S.1217) includes a 10-percent capital requirement at the MBS level, in addition to the norm of a 20-percent capital requirement at the level of the individual mortgage from homeowner equity and private mortgage insurance. This 10-percent MBS capital requirement is both appropriate and essential. By way of comparison, the total losses of Fannie Mae and Freddie Mac were shy of 5 percent of their assets, so a 10-percent requirement represents a considerable amount of capital. Indeed, there is a sense in which a 10-percent capital requirement at the MBS level is closer to 100 percent than the current capital requirement of zero, since 10 percent would have been enough for the two firms to have made it through the crisis. I recognize that the existence of an explicit guarantee is a huge step for people concerned about bailouts and the adverse effects of Government intervention in housing finance. A 10-percent capital requirement should provide considerable comfort that taxpayers are protected from future bailouts.

At the same time, it should be kept in mind that the losses at Fannie and Freddie in all likelihood would have been considerably higher had the Government not intervened to support the housing market, not just through the injection of capital into the two firms but also through the actions of the Federal Reserve in purchasing over a trillion dollars of the two firms' securities. Such quantitative easing by the Fed effectively reduced the losses at the GSEs. This suggests caution in looking at a 5-percent capital requirement as sufficient. A future system with 10-percent capital would not have to rely on such unprecedented central bank or taxpayer intervention to withstand a repeat of the recent crisis.

Members of the Committee should look skeptically at assertions that a 10-percent capital requirement will have a serious adverse impact on the housing recovery—and even more skeptically at suggestions that this amount of capital is simply not available to finance housing. To be sure, a steeper capital requirement will translate into higher interest rates, but the impact should not be overstated. Recent analysis by Mark Zandi quantifies the impact of recapitalizing the housing finance system under a structure such as that envisioned in S.1217, and puts the interest rate impact at just above 50 basis points for the average borrower. In a normal economic environment, the Federal Reserve can shift interest rates by 50 basis points or more over the course of a 2 day FOMC meeting. And of course the Fed would be watching the impact of any increase in rates on the housing market and the overall economy and presumably would use monetary policy to help lessen the macroeconomic impact. Moreover, Mr. Zandi's analysis so far has assumed that the 10-percent first-loss private capital has a uniform structure—that it is entirely common equity. Allowing for this private capital to be tranched, as envisioned in S.1217, would result in lower estimates of the impact on mortgage interest rates.

To be sure, the mortgage interest rate impact is not zero, and will come on top of eventual interest rate increases when the Federal Reserve finally normalizes monetary policy. But affordability remains strong and the housing recovery will continue even with higher rates—indeed, moving forward with housing finance reform that spurs a return of private capital will lessen the barriers now faced by too many borrowers in obtaining access to mortgage financing.

In evaluating the incremental impact of the 10-percent capital requirement over a smaller one such as 5 percent, it is important to keep in mind that the private capital ahead of the Government can be split into tranches. Investors will receive a higher return to take on the first-loss position at the bottom of the capital stack, reflecting the fact that the risk of the first 5 percentage points of housing credit risk is greater than that of supplying the fifth to tenth percentage points of private capital.

The incremental cost of capital and the degree to which taxpayers are protected by the capital go together. If 5-percent capital is a safe amount to protect taxpayers, then this means that the incremental cost of going from 5-percent capital to 10 percent will be modest—after all, the capital position from the fifth percentage point to the tenth point is quite safe. Putting it more starkly, an assertion that the incremental cost of going from 5-percent to 10-percent capital is not modest should be taken as a signal that 5 percent is not an adequate capital requirement to protect

taxpayers. It is not possible to have it both ways—to say that 5 percent is safe but that 10 percent is costly.

This is of course the usual implication of the renowned Modigliani-Miller theorem, but this is not an academic or theoretical statement. For sure there is a cost from higher capital, since the Modigliani-Miller conditions do not hold in practice—in particular, the tax code with its double-tax on the return from capital provides an incentive for the use of debt finance over equity. But members of Congress should look skeptically at those who deny that incremental capital will have a modest cost impact, especially if such claims are accompanied by noxious assertions about the supposed difference between "academia" and the "real world." There are costs of additional capital, but these are too readily exaggerated.

A related issue is the claim that there is simply not enough capital available to fund housing with a 10-percent capital requirement. This is equivalent to saying that the yield required to attract 10-percent capital is unimaginably high—that capital will not take on housing credit risk regardless of the rewards. This assertion is hard to take seriously in an era in which monetary policy has driven down long-term interest rates and spurred a search for yield.

At the same time, the capital requirement should not instantly change from the current situation of zero up to 10 percent—there should be a transition period during which private investors become comfortable with the mechanisms by which they take on housing risk and the attendant markets for housing credit risk become more liquid.

The amount of capital involved in a 10-percent capital requirement should be viewed in context. In round numbers, total U.S. financial market assets are on the order of $50 trillion, split roughly equally between equity and fixed-income securities. Housing finance is about $10 trillion of this (with the value of the housing stock roughly twice as large). If eventually housing finance reform results in a system in which half of mortgages are guaranteed and half are not, this means that a 10-percent capital requirement needs about $250 billion more in capital than one with a 5-percent capital requirement. This additional $250 billion is a one percentage point shift from fixed-income securities into equity. By further way of comparison, banks and the GSEs together raised around $400 billion in capital in 2007 and 2008 in the face of mounting mortgage losses. We have all learned over the past 5 years that a safer financial system requires more capital—if anything, the higher mortgage interest rates reflect the fact that the financial system was previously undercapitalized. Higher rates correspond to increased protection for taxpayers.

Diverse Sources of Funding From a 10-Percent Capital Requirement

A 10-percent capital requirement will both protect taxpayers and provide appropriate incentives for diverse sources of funding for mortgages (in addition to the incentive for prudent behavior by those with capital at risk). Starting from the situation of today in which 90 percent of mortgages have Government backing, it would be desirable to have more lending done without a Government guarantee so that private investors can finance those who fall outside the Government-backed programs. This would include both balance sheet lending and nonguaranteed private label securitization.

While nonguaranteed MBS played an important role in the run-up to the financial crisis, the regulatory regime has changed, including through the advent of the Consumer Financial Protection Bureau (CFPB) to address behavior by nonbank originators. With this in mind, a revival of private label securitization is a desirable policy outcome, to end up with a mortgage market with many sources of capital and a greater share of housing market risk borne by private investors rather than taxpayers. Ultimately it should be seen as a policy success to have some mortgages that could receive a guarantee choose not to obtain one. I recognize the concerns that poor lending practices will reemerge with the private label market but see the regulatory apparatus, including the CFPB, as the right way to address this issue. The alternative would be to have the vast majority of mortgage loans receive a Government guarantee as is the case today, with the attendant current downside of the restricted access to financing for too many potential borrowers. It is better to allow private providers of capital rather than the Government to fund incremental borrowers, including by having private providers of capital figure out which risks to take on, and reap both the rewards from these investments and the consequences when loans go bad.

A related concern over a revival of private label securitization is that Government policy makers will feel obligated to carry out an ex-post bailout in the next crisis. I believe the experience of the financial crisis shows that this is not correct in that the policy focus in the crisis was on ensuring the flow of new financing—that was a paramount reason why Fannie and Freddie were bailed out. Similarly, the TALF

program was set up by the Treasury and Federal Reserve to ensure the flow of new securitization to support lending and economy activity and did not provide an ex-post bailout to legacy assets. These considerations likewise argue against an expansion of Government guarantees more broadly than housing to other securitized assets such as by setting up a permanent TALF. I see an implicit guarantee as inevitable in housing and thus prefer to make it explicit and priced. But this is the not the case for other securitized lending.

A Government guarantee gives rise to adverse selection, as originators seek to obtain a guarantee on risky loans. This is a concern for any plan with a guarantee, regardless of the capital requirement—this applies just as well to a system with a 5-percent capital requirement as it does to one with a 10-percent requirement. If anything, the concern over adverse selection highlights the importance of the housing finance regulator, whether FHFA or FMIC, ensuring that origination standards remain high for loans to be eligible for a guarantee and that the private capital standing in front of the Government is able to absorb losses when needed.

Still, it is the case that setting the capital requirement at 10 percent when banks have a 4-percent capital requirement for mortgages held in portfolio provides an incentive to have some loans stay on balance sheet and others go into guaranteed securitization. But again, this same concern applies even if the MBS capital requirement is the same 4 percent as for depository institutions under the Basel standards—once a guarantee is available, originators will have an incentive to obtain a guarantee on their riskiest loans.

Moreover, while banks have a capital requirement of 4 percent for mortgage assets under the Basel framework, they face a broad suite of regulation that does not apply to securitization outside of insured depository institutions, including the threat of prompt corrective action when things go bad, deposit insurance premiums, and a capital surcharge and enhanced liquidity requirements for large banks. Adjusting for these factors means that equivalent capital requirement to compare balance sheet lending to securitization is probably more like 5 or 6 percent rather than the simple 4-percent Basel capital charge. The disparity between the 10-percent capital requirement for guaranteed MBS is thus smaller than it seems. And again, it should be extraordinary for any financial sector activity to receive an explicit Government guarantee. An elevated capital requirement is appropriate in this circumstance. An incentive for balance sheet lending and nonguaranteed securitization is welcome, not problematic.

I further suggest that housing finance reform legislation include a mandated minimum capital requirement—again with 10 percent as an appropriate figure—rather than allowing regulators to determine this crucial figure. Experience and expectation suggest that political pressures will push regulators in the direction of less capital. This should be avoided. The housing finance regulator is still left with the vital task of ensuring that the capital is high-quality and able to absorb losses. But with the capital requirement representing the bedrock foundation on which protection for taxpayers rests, it would be desirable to have this specified in the legislation.

Activation of the Guarantee

As in the Housing Finance Reform and Taxpayer Protection Act (S.1217), I would have the secondary Government guarantee kick in only after the entire private capital of the entities taking the first-loss position at the MBS level. The Government would then cover the full principal and interest of the guaranteed MBS. Such an arrangement would ensure that an event in which the Government pays out on the guarantee is both rare and consequential.

Private capital at the MBS level could include the equity of the private firm that undertakes the securitization as well as capital that shares the risk such as through credit-linked notes and other structures. The 10-percent capital requirement in this setup would require the securitizer to gather private capital equal to 10 percent of all of the guaranteed MBS it creates. The entire capital required for all guaranteed MBS from a firm would be on the line before the Government pays on any MBS. This ensures that the guarantee will rarely activate and that the Government will not have to write checks on individual MBS or even multiple MBS that go bad within a particular vintage of origination.

Activation of the guarantee would then be associated with the failure of the private guarantor that has arranged the first-loss capital. This is appropriate to ensure that the investors and management involved with the private guarantor suffer the full consequences of failure: shareholders go to zero, management is replaced, and the full losses are imposed on other investors who have taken on housing credit risk. These consequences are attenuated in alternative approaches in which the Government guarantee applies to only a vintage of origination at a time. In such a setup, less capital is in front of any one vintage meaning that the guarantee will activate

more frequently. With a cooperative structure that persists over time, the management and shareholder/participants of the cooperative likewise do not suffer the full consequences of failure—the cooperative continues and shareholders and management remain.

Adjusting the Capital Requirement

Provisions to adjust the amount of first-loss private capital would be useful to adapt to temporary circumstances in which the willingness of private investors to supply capital for housing recedes in the face of market uncertainties. Such a mechanism should have safeguards, however, so that it is used infrequently. Policy makers should not seek to ensure that homeowners can obtain low interest rate loans at all times, and should not look to make frequent adjustments to the settings of the housing finance system for the purposes of macroeconomic stabilization. Instead, the Federal Reserve should have the primary responsibility for macro stabilization policy, with changes to housing finance used only when the Fed is not able to achieve its dual objectives.

To ensure this separation between housing finance and macroeconomic stabilization, the director of the housing finance regulator should not have the authority to adjust the required amount of capital. This should be left instead to a joint decision of the Fed Chair and Treasury Secretary, along the lines of the revised Fed authorities under exigent circumstances. As in S.1217, it is appropriate to ensure that any reduction in the capital requirement be explicitly temporary and subject to a limited number of renewals by another decision of those two officials. Such a limited timeframe for renewal of a reduced capital requirement is useful to ensure that the minimum capital requirement is not subverted. A crisis lasting longer than 12 or 18 months—one or two renewals of the initial 6-month authorization for a reduced capital standard—is appropriately addressed by legislation rather than regulatory initiatives.

Market Structure for Guaranteed Securitization

The approach taken in S.1217 would arrive at a housing finance system in which multiple firms compete in the business of securitization and guarantee, gathering the required private capital and purchasing the secondary Government guarantee. As noted above, such a system would involve competitive pressures that pass on the benefits of any inadvertent Government subsidy from underpricing of the secondary insurance to homeowners through lower interest rates. Multiple firms would likewise help address the too big to fail problem by ensuring that one or more could fail without impairing the flow of mortgage financing.

A key requirement for such a system is that sufficient firms are willing to enter into the business of securitization, gathering the private capital and purchasing the secondary Government guarantee. S.1217 appropriately looks to jump-start the process of entry and competition by making all of the infrastructure of the existing GSE's licensable to approved issuers of guaranteed MBS (this infrastructure is the property of Fannie and Freddie, which remain private firms, and thus would be obtained for compensation). Among the new entrants would be a mutually owned firm to ensure that smaller banks have access to the secondary Government guarantee without having to go through one of the large banks that today dominate mortgage origination (a single securitization cooperative inevitably would be dominated by large banks). This step of licensing infrastructure would considerably reduce the startup costs for new entrants. Similarly, the requirement that all guaranteed MBS trade on a common securitization platform would ensure that new entrants have the benefits of the full market liquidity. This would avoid a situation in which the securities of a new entrant trade with a considerable liquidity penalty over those of incumbents. The housing finance regulator would likewise be tasked with looking out for anti-competitive practices, including such as the past use of volume discounts that tended to lock originators into particular channels for securitization.

The system in S.1217 would require entry by enough firms to ensure competition. It is hard to say how many are required, but at least three and preferably five seems reasonable as a balance between having enough competition and avoiding TBTF concerns, while not dissipating the natural scale economies involved in housing finance. A variety of firms might be expected to enter into the business of securitization and guaranty, starting with entities that now take on housing credit risks—both investors such as asset managers and private equity funds, and originators such as banks. As noted above, an essential part of housing finance reform is to ensure that smaller institutions have access to any secondary Government guarantee without the need to rely on the existing large banks.

Looking ahead, the Government eventually could ensure the return of nonguaranteed lending by auctioning off a limited amount of insurance capacity for the Gov-

ernment guaranty. The balance of mortgages would then go into the various forms of nonguaranteed lending. Such a system would further help ensure that the risk taken on by taxpayers through providing the secondary Government guarantee is appropriately priced in an auction setting.

Conclusion

A housing finance reform that creates an explicit guarantee is appropriate with considerable protection for taxpayers in the form of first-loss private capital, but should be seen as an extraordinary ongoing intervention of the Government in the market. In allowing for a guarantee, it is vital to avoid having housing finance reform re-create other aspects of the previous system that failed so badly and imposed immense costs on taxpayers. This would include ensuring that the retained investment portfolios are not allowed for firms with access to the guarantee, and avoiding re-creating the previous housing goals that distorted behavior (though the goals were not a primary driving factor behind the collapse of the two GSEs). Any subsidies for affordable housing activities should be done through explicit expenditures and not through housing goals or by imposing duties to serve various populations on firms participating in the housing finance system.

A new housing finance system will be beneficial for individual homeowners by providing new channels through which borrowers can obtain mortgage funding, while providing benefits of greater protection for taxpayers and increased stability for the overall economy. An appropriately designed Government guarantee can be an element of such a new system.

PREPARED STATEMENT OF MICHAEL S. CANTER

SENIOR VICE PRESIDENT AND DIRECTOR OF SECURITIZED ASSETS, ALLIANCEBERNSTEIN, ON BEHALF OF THE SECURITIES INDUSTRY AND FINANCIAL MARKETS ASSOCIATION

OCTOBER 31, 2013

Chairman Johnson, Ranking Member Crapo, and Members of the Committee, thank you for the opportunity to testify before you today. My name is Michael Canter and I am Senior Vice President and Director of Securitized Assets at AllianceBernstein, testifying today on behalf of the Securities Industry and Financial Markets Association (SIFMA).[1] SIFMA and its members look forward to working collaboratively with you all in analyzing how policy choices made will affect the ability of secondary mortgage markets to provide liquidity to lenders, and thus the availability and cost of credit to support housing finance.

Among other priorities which I will discuss, SIFMA and its members believe that the preservation of the ability of secondary markets to support the 30-year, fixed-rate mortgage should be a key priority. The 30-year fixed-rate mortgage is a stable and predictable way by which most Americans have historically financed their home purchases. While adjustable rate and shorter-term mortgages have benefits of their own, the 30-year mortgage provides for an affordable and predictable payment for many borrowers. Such 30-year mortgages, however, present significant risks to lenders and investors in that the stream of interest income is locked in over a long period, regardless of where funding costs move. To manage this risk, lenders need access to a liquid, forward market for mortgage loans. Without such a market to manage interest rate risk, lenders would be less willing to originate 30-year fixed-rate loans and many would likely not originate them at all.

Indeed, SIFMA's primary focus in considering reform of the housing Government-Sponsored Enterprises (GSEs) is the preservation of a liquid, forward market for the trading of mortgage-backed securities (MBS). Today, the "to-be-announced" (TBA) markets serve this function. The TBA market serves a critical function in our current system, allowing mortgage originators to sell conforming loans before they are originated, enabling them to provide interest rate locks to borrowers well in advance of closing while hedging their risk. This allows the borrower the ability to lock in a rate well in advance of settlement. Furthermore, the TBA market provides the necessary liquidity that enables a national market whereby regional differences do not impact credit availability for borrowers in particular locations, as MBS traded

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[1] SIFMA brings together the shared interests of hundreds of securities firms, banks, and asset managers. SIFMA's mission is to support a strong financial industry, investor opportunity, capital formation, job creation, and economic growth, while building trust and confidence in the financial markets. SIFMA, with offices in New York and Washington, DC, is the U.S. regional member of the Global Financial Markets Association (GFMA). For more information, visit *www.sifma.org.*

in the TBA market tend to be geographically diverse. In addition to the loan origination aspect, the TBA market provides an important benefit to investors such as pension plans, 401(k) plans, mutual funds, State and local Governments, and global investors. Indeed, with over $250 billion of securities traded on an average day, the TBA market is the largest and most liquid secondary market for mortgages, and second only to the U.S. Treasury securities market in terms of bond market activity.

Today's hearing asks this panel to consider the essential elements of a guarantee but to flip that a bit, an essential element of the TBA market is the guarantee itself. Homogeneity is what makes the TBA market succeed. In this market, buyers and sellers agree on certain terms of a trade, but importantly buyers do not know all of the specific characteristics of the security they have purchased until 2 days before the trade settles. This is what allows liquid forward trading, and allows originators to hedge production pipelines.

The homogeneity is driven by two main factors: standardization of terms, and the absence of credit risk. Terms are currently standardized through the GSE's lending, servicing, documentation, and other guidelines. Credit risk is addressed though the implied but near-explicit Government guarantee on the principal and interest payments of the MBS. A structure whereby private capital would take a first position loss with a limited Government guarantee supporting losses beyond the first position loss would serve to diminish any credit risk concerns. This allows for what is essentially a one-factor analysis of the market—that of prepayment risk or the risk that borrowers will refinance or otherwise repay principal before it is due in response to changes in interest rates. It is a so-called "rates market", as opposed to a "credit market". The guarantee serves another beneficial function by attracting investors who would otherwise not invest in MBS.

Possibly the most important benefit of the guarantee is the support that it provides to the market in times of crisis—it allows investors to fund mortgage credit creation even at times when other markets become less liquid. This was tested in 2008, when private-label MBS markets completely shut down, bank portfolios significantly contracted lending standards, and the GSE and FHA markets took on the vast majority of credit provision. Without the guarantee, credit would have dried up as it did for corporations and other significant borrowers. And what mortgages could be sold would have been far, far more expensive. No one disagrees that the role of the Government must shrink, but it must also be recognized the critical countercyclical role the guarantee plays.

Sharing Risk With the Private Sector

When thinking about the private capital that should stand in front of the guarantee, we believe that the risk that taxpayers are exposed to losses should be very remote and that risk should stand behind a number of levels of private capital acting as a shield or buffer. In arranging such a system, the various sources of private capital protecting the Government should be recognized:

- Borrower equity;
- Equity capital in loan- or pool-level mortgage/bond insurance providers and/or providers of corporate guarantees[2] and capital markets-based risk transfer transactions; and
- Well-capitalized insurance reserve funded by fees paid for Government backstop.

Introducing market-based risk taking into the system will confer an important benefit on the system. Global capital markets are often more able to accurately price mortgage credit risk than a Government agency or regulator. Capital market participants also price risk on a relative basis, in comparison to other investment options, and this should help temper risks of a race-to-the-bottom. To the extent that mortgage risk becomes underpriced, participants should gravitate toward alternatives that provide more attractive returns, tempering the level of underpricing. Of course, this pricing of risk will not be perfect, and it will not necessarily in and of itself service whatever goals policy makers may set forth. It will, however, provide critical signaling to the world as to exactly what level of risk taxpayers are taking on as they provide the ultimate guarantee for the new conforming MBS, and should promote a more safe and sound system.

A consideration here is that a mandatory, fixed level of risk sharing could contribute procyclically to fluctuations in mortgage markets and credit availability. We

[2] We note that such entities should be required to be adequately capitalized and regulated to withstand events such as the recent market downturn and avoid the recent experience of rescissions and denied claims.

could support an approach where mandatory levels of risk sharing fluctuate in relation to the demand for mortgage credit risk. If constructed otherwise, the regime will tend to exacerbate booms and busts. If there were housing market distress, risk would be more expensive to sell, and that would increase the cost of credit. Increases in the cost of credit could exacerbate housing market distress. This is not to say that it is inappropriate for mortgage rates to fluctuate due to economic or other factors, but rather that it is appropriate for policy makers to have levers to ease extreme periods of dislocation before they become systemic problems. Importantly, significant changes in the pricing of this risk will signal to regulators and policy makers that something is happening in mortgage markets that may warrant further study. One of the most important factors in considering how first-loss capital should be introduced into the markets for the new conforming MBS is whether or not a particular approach will disrupt the critically important liquidity of the TBA market.

Securities-based structures to take first-loss risk have important advantages and disadvantages. Some securities-based proposals involve a requirement that risk be shared with capital markets investors concurrently, or near concurrently, in order to obtaining a Government guarantee. We note above that the TBA market provides important price information to lenders that allows them to hedge risk and provide rate locks to borrowers. To the extent that obtaining a Government guarantee is conditioned upon the prior sale of a set amount of risk into private markets, advance price information may not be available to the lender because there is no liquid, forward market for mortgage credit risk. This will make it harder or impossible for lenders to provide rate locks to borrowers because the cost of the risk sharing is a factor in the pricing of the loan. This would likely cause significant problems for the liquidity of the TBA market, and could potentially render it inoperable. This implies that risk sharing requirements are better structured to not be a strict concurrent mandate with the issuance of a new conforming MBS—risk needs to be warehoused somewhere for a period of time.

The liquidity of the current GSE MBS markets must flow seamlessly into the new market; this $4 trillion market cannot be orphaned in the transition to the new system. Abandoning outstanding securities would immediately diminish liquidity and value in the market for existing GSE MBS, and would likely damage the confidence of current global investors as regards to the merits of investing in the new securities. It would also mean that the market for the new form of conforming MBS would start with zero liquidity—it would be very volatile, and would not offer attractive pricing to lenders or borrowers. Therefore, the form of the conforming MBS in the future needs to be generally compatible with the form of conforming MBS today, or at least not so different that the current GSE MBS could not be converted into the new form or otherwise made fungible.

To the extent that capital-markets risk sharing mechanisms involve security structuring, such as in a senior/subordinate arrangement, there is a risk that homogeneity will be lost among different structures and this will cause difficulties in promoting a liquid TBA market. It would also be more challenging to ensure these securities would be fungible with existing MBS in a common TBA market. That does not mean this structure should be discarded but it is an important factor to keep in mind.

Capital markets transactions similar to Freddie Mac's STACR or Fannie Mae's CAS series are viewed as the most viable currently used form of risk sharing with capital markets. Since these types of transactions do not impact security structure, they do not have an impact on the functioning of the TBA market. They are also flexible and should be able to accommodate various investor needs and strategies for sharing risk with them.[3] However, their performance through a cycle and ease of execution in less favorable market environments has not yet been observed. Other arrangements that do not alter security structure, such as the pool-level mortgage

[3] There is a related, specific inefficiency that should be remedied in housing finance reform legislation. The CFTC's commodity pool regulations would cover risk-sharing transactions executed with credit-linked notes or other derivatives. Characterization of the transaction as a commodity pool, and its sponsors as commodity pool operators, would require the sponsors of the transaction to comply with burdensome and not particularly relevant reporting, registration, disclosure, and other requirements which were intended for operators of true commodity pools (i.e., those which invest in true commodity interests such as cotton or grain). The original design of the GSE's recent transactions was in the form of credit-linked notes. Because of these still unresolved issues, the transactions were significantly delayed, and were changed to a less efficient securities-based structure. Legislation should ensure that these types of risk-sharing transactions are exempted from characterization as commodity pools, and that their sponsors are not deemed to be commodity pool operators.

insurance transaction recently executed by Fannie Mae, also appear to be compatible with TBA.

There are similar considerations for models that involve private guarantors, especially regarding how many there should be. The range is from zero (i.e., FMIC is the guarantor in the system) to one, two, or a multitude of privately owned entities. Advantages to a greater number of first-loss credit providers include the ability to optimize execution among competing pricing and eligibility criteria, insulation from operational failure of any single first-loss credit provider, greater variety and more innovation in product offerings and more equal bargaining strength between the first-loss credit provider and mortgage originator.

On the other hand, fewer first-loss credit providers would offer increased product standardization, enhanced liquidity for both loans and securities, and lower total cost of infrastructure. Due to the extreme correlation of their business models, the benefits of risk diversification stemming from larger numbers of first-loss credit providers are likely smaller than they may appear.

Finally, competition among first-loss credit providers creates a risk of "race to the bottom" pricing and guideline offerings. A similar issue also arises in Co-Op structures where members may attempt to gain market share or increase margins by making riskier loans and "free riding" by delivering them into the Co-Op's pricing, which is based on aggregate collateral performance. This argues for a focused effort to ensure that competition is promoted among guarantors and other parties. Barriers to entry should be limited to the level that is necessary to ensure a stable environment; regulatory standards should be high enough to ensure that incentives to "race to the bottom" are mitigated.

Transition Issues

As many have noted, the transition to whatever new system policy makers create is just as important as the new system itself. Put simply, the Government should reform, repeal, or avoid policies that repel private capital or generate uncertainty. Private market participants demand transparency and certainty in their investments and capital allocations. Many factors and events during and stemming from the recent financial crisis have caused private capital to retreat from funding mortgage credit. In particular, the potential for seizures of loans through a municipality's use of eminent domain run the risk of causing private capital to once again flee the mortgage markets. Such actions, if they are allowed by policy makers to proceed, would damage investor confidence in mortgage markets and drive the cost of mortgage credit higher, and availability therefore lower. Policy makers must recognize the national importance of this and ensure that individual municipalities or other governmental entities are not able to cause damage and act in opposition to the national interest. Above all, Federal Government programs and entities such as the Federal Housing Administration should not be party to such activities.

The time line for transition must be long enough to facilitate continual liquidity and flexible to accommodate unforeseen challenges. The transition will consist of changes to the legal and operational framework of the core of mortgage finance. The transition begins immediately with the implementation of the legislation, and continues with the development of guarantors and other capital market risk sharing and operational standards. Additionally, the expectations of current bondholders must be supported through clarification of guarantee for existing securities: Not making explicit the implicit guarantee on existing MBS and corporate debt will disrupt the markets for these securities, harm the confidence of investors who are needed to participate in the new market, and make impossible a seamless continuation of the liquidity from the current markets to the future markets.

In conclusion, as this Committee continues down this critical path toward establishing a more sustainable housing finance system, SIFMA and its member firms stand ready to assist you and your colleagues in answering the tough questions that lay ahead.

Appendix – Primer on TBA Markets

History

The genesis of the TBA market began in the 1970s, when members of the Government Securities Dealers Association began to discuss standards for the trading and settlement of bonds issued by Ginnie Mae. In 1981, the Public Securities Association[4] published the *"Uniform Practices for the Clearance and Settlement of Mortgage-Backed Securities and Other Related Securities"*, which is a manual that contains numerous of market practices, standards, and generally accepted calculation methodologies developed through consensus discussions of market participants, that are widely accepted and used in the MBS and asset-backed security markets. The GSDA and PSA were predecessors of SIFMA.

Participants in the TBA market generally adhere to market-practice standards commonly referred to as the "Good-Delivery Guidelines", which comprise chapter eight of this manual[5]. These guidelines cover a number of areas surrounding the TBA trading of agency MBS, and are promulgated by and maintained by SIFMA, through consultation with its members. The purpose of the guidelines is to standardize various settlement related issues to enhance and maintain the liquidity of the TBA market. Many of the guidelines are operational in nature, dealing with issues such as the number of bonds that may be delivered per one million dollars of a trade, the allowable variance of the delivery amount from the notional amount of the trade, and other similar details.

Mechanics of a TBA Trade

The majority of trading volume in the agency MBS markets today is in the form of TBA trading. For background, a TBA is a contract for the purchase or sale of agency mortgage-backed securities to be delivered at a future agreed-upon date; however, the actual pool identities or the number of pools that will be delivered to fulfill the trade obligation or terms of the contract are unknown at the time of the trade. Actual mortgage pools guaranteed by one of the Agencies are subsequently "allocated" to the TBA transactions to be delivered upon settlement. Settlement dates of transactions are standardized by product type (e.g. 30 year FNMA/Freddie Mac pools, 30 year Ginnie Mae pools, 15-year pools) to occur on four specific days each month. Monthly settlement date calendars for the TBA market are published one year in advance by a SIFMA committee on a rolling 12-month basis. This is done to increase the efficiency of the settlement infrastructure, and facilitate forward trading. Most trades are executed for settlement within one to three months, although some trading may go further forward from time to time.

For example, Investor A could call up Market Maker A on May 23, and order $10 million FNMA 5.5% coupon 30-year MBS, for settlement on July 14. *The investor does not specify specific bonds or CUSIP numbers.* On July 12, according to market practice, Market Maker A would notify Investor A of the specific identities

[4] The Government Securities Dealers Association and the Public Securities Association are predecessor organizations of SIFMA.
[5] The Good Delivery Guidelines are a part of SIFMA's *Uniform Practices for the Clearance and Settlement of Mortgage-Backed Securities and Other Related Securities*, which is available here: http://www.sifma.org/research/bookstore.aspx

of the pools that will be delivered on July 14. Most likely, these will be MBS that were just issued at the beginning of July.

On the other side of an investor or market maker often stands a loan originator. Originators can enter into forward TBA sale contracts, allowing them to hedge the risk of their loan origination pipelines. This permits the lenders to lock in a price for the mortgages they are in the process of originating, benefitting the borrower with the ability to lock in mortgage rates earlier in the process. Pricing on loans varies from day to day with fluctuations in the TBA markets, and lenders will often re-price loans for their bankers and correspondent partners on a daily basis. Thus mortgage bankers follow the market in order to make decisions on when to lock in a rate for a borrower.

Key Benefits of the TBA Markets

- Liquidity for U.S. Mortgage Lending

The TBA market is by far the most liquid, and consequently the most important secondary market for mortgage loans. This liquidity is primarily derived from the homogeneity of the MBS collateral, combined with its vast size (>$4 trillion) and the forward nature of the trading. TBA trading is based on the assumption that the specific mortgage pools which will be delivered are fungible, and thus do not need to be explicitly known at the time a trade is initiated. At a high level, one pool is considered to be interchangeable with another pool. The sources of this homogeneity are primarily threefold:

- The Agencies each prescribe standard underwriting and servicing guidelines (FHA plays this role in concert with Ginnie Mae in those markets)
- Standardized market practices and guidelines (the "Good Delivery Guidelines", discussed more below) ensure that securities eligible for the TBA market are homogeneous, which allows buyers and sellers to transact with confidence that knowing the specific identity of a security they will trade, at the time of trade, is not necessary;
- The explicit or implicit guarantee on the MBS eliminates credit risk from the risk factors investors must deal with. This guarantee also attracts classes of investors who would not otherwise participate in these markets; investors who are statutorily prohibited from, blocked by investment guidelines from, or simply do not desire to take on mortgage credit risk.

Thus, investors can buy securities without knowing their exact identity because they know that (1) the underwriting will be consistent across pools, (2) the servicing will be consistent across pools, (3) the MBS and operational mechanisms around their trading will be consistent across pools, and (4) they do not need to perform a loan-level dive to explore credit risk before they purchase the bonds.

There are currently over $4 trillion in bonds eligible for TBA trading – it is a vast market. It is also extremely liquid. Federal Reserve data shows average daily trading volumes of Agency MBS reported by the Fed's primary dealers as exceeding $300 billion per day over each of the last 3 years. Private estimates of daily TBA trading volumes exceed $600 billion (these estimates take in to account trading beyond that of the primary dealers). Liquidity in this market is second only to the market for Treasuries. This liquidity allows investors to buy and sell significant quantities of securities quickly and without disrupting the market. This makes the market very attractive to these investors who have substantial funds to be invested.

This liquidity draws trillions of dollars of investment capital to U.S. mortgage markets, as discussed in detail in the previous section of this testimony. Given the size and liquidity of the market, buyers and sellers are able to trade large blocks of securities in a short period of time without creating distortions.

- Originator Hedging and Rate Locks

As mentioned, this market allows lenders to sell their loan production on a forward basis, in some cases before MBS pools are formed, and hedge risk inherent in mortgage lending. A benefit of this ability to hedge risk is that the TBA market allows lenders to lock-in rates for borrowers. Lenders can sell forward in the TBA market at the then-current interest rate. Without TBA markets lenders would either have to charge substantially more for (probably shorter-term) rate locks, because hedging in derivatives or options markets is more expensive and less efficient. It is possible that some lenders simply would not offer rate locks at all. The liquidity of the TBA market creates efficiencies and cost savings for lenders that are passed on to borrowers in the form of lower rates and broad availability of mortgage products, and helps to maintain a national mortgage market.

- Benchmark Status of the TBA Market

For all of the reasons outlined above, the TBA market is a benchmark for all mortgage markets – it is the reference by which other mortgage markets and products are priced. In this manner it is similar to the Treasury market. This is an issue that is often overlooked, but one that we want to highlight. Non-agency mortgage product is priced relative to TBA; TBA provides a sort of risk-free reference point for those markets. Without the TBA market, we believe that non-TBA markets would be somewhat more volatile as pricing would become more challenging. We also note that predictions of the movement of mortgage rates in a world without TBA generally do not take into account this role. While the actual change in rates would be quite dependant on the exact contours of a mortgage finance system without TBAs, we suspect that the change may be greater than many currently believe.

It is difficult to exaggerate the consequences from a loss of confidence or liquidity in this market if a suitable replacement were not found. The effects would be directly and immediately felt by the average mortgage borrower. The impact would include, at a minimum, higher mortgage rates, as yields required by investors would rise as liquidity falls. It is also likely that credit availability would be constricted. This would

occur because secondary market executions for originators would be more expensive and take longer, requiring longer warehousing periods for loans they originate. Balance sheet capacity is currently a scare commodity for most lenders, and is finite in any case. Furthermore, the ability of borrowers to lock-in rates on mortgage applications would likely be reduced, creating uncertainty for them and likely depressing real estate activity which is an important component of broader economic activity.

Can the TBA Market Function without a Government Guarantee?

We are not aware of any meaningful, consistent TBA-style trading of any other non-guaranteed mortgage product at this time. To the extent that guarantees were completely removed, we believe that the best case outcome with respect to TBAs is a far smaller, far less liquid market. The not-unlikely worst case outcome would be the complete dissolution of the markets.

As we mentioned earlier, the key driver of the TBA market is homogeneity. In the future, one can envision a recreation of "Good Delivery Guidelines" for a non-guaranteed product. However, this is only one piece of the puzzle. The Agencies play a critical role in the TBA markets through their standardization of underwriting and servicing, and their enforcement of that standardization through automated underwriting systems and otherwise. It is unclear to SIFMA how this could be recreated to the degree of detail at which it currently exists, and be done so in a format that was efficient and manageable enough to support liquid TBA markets.

The guarantee on MBS traded in TBA markets eliminates a key risk – credit risk. Investors in TBA markets focus on prepayment risk, that is, the risk that borrowers will repay their loans early, and on interest rate and market risk, or the risk that interest rates or market pricing will move against them. This allows what are called "rates investors" to invest in the Agency MBS markets. Rates investors, put simply, are investors who do not wish to take on credit risk. They include various investment funds, and importantly, many foreign investors.

In the non-Agency markets, investors must also deal with credit risk. This entails an examination of the credit risk factors of the loans that collateralize the MBS. Going forward, we expect that investors will perform this review at a loan level, as disclosure practices and regulations for non-Agency MBS drive to this end. In and of themselves, loan level reviews are not practical for TBA trading (because one cannot review loan level detail on an unknown pool of loans). Therefore, to create a level of comfort that would allow investors and market makers to trade non-agency collateral on a TBA basis, underwriting standards would need to be very strict because they would need to eliminate as much credit risk as possible. As a result, lenders would likely draw such a small circle around eligible mortgage loans that the supply of loans would likely not be sufficient to support large and liquid TBA trading. Additionally, to define the underwriting standards for every bank that would deliver into this market, and on top of that to outline servicing procedures, would entail a massive expansion of market practice guidelines in terms of breadth and length. This would complicate the ability of investors to get comfortable that the loans that underlie the securities they will be delivered next month, or the following month, will comply. Importantly, there would be no clear enforcement mechanism for compliance.

The expansion of the usage of mortgage insurance to provide comfort to MBS has been put forth as one alternative. SIFMA's discussions with its members have evidenced significant doubts that the investing markets would take anything near the current level of comfort from private mortgage insurance solutions. In any case, members generally believe this solution would be inadequate to support liquid TBA trading.

Given all of this, it is not clear what proportion of the current rates investor base would shift into the proposed new non-guaranteed TBA markets. If a significant proportion of the rates investor base did not shift into the new market, the potential liquidity and potential size of the new market would be severely compromised (if it functioned at all). It is also not clear on the supply side whether or not a sufficient

quantity of loans would be produced that would comply with the extremely strict underwriting guidelines that would be needed. It is notable that no other mortgage market or funding system via depositories has ever provided sustained liquidity to the extent that the Agency MBS markets have. It is also notable that each secondary mortgage market that was not the beneficiary of a guarantee collapsed in 2008.

SIFMA's members have concluded that some form of explicit government support is needed to attract sufficient investment capital to maintain liquidity and stability in the TBA market at a level comparable to that created over the last 30 years. Members believe that total privatization of mortgage finance will likely result in greater volatility, decrease efficiency, and ultimately make mortgage loans more expensive and less available. There are a number of ways that an explicit guarantee on MBS could be structured. The bottom line for a guarantee is that investors in TBA markets must know that they will receive back at least their invested principal. Without it, certain rates investors would completely drop out of the market and others would have significantly smaller allocations of investment capital available for the asset class, and we expect that at best, the peak volume and liquidity of such a market would be orders of magnitude smaller than the current TBA market.

Furthermore, as discussed above, Agency MBS currently provide a safe, liquid investment product for many risk-averse 401k plans, pension plans, and insurance companies. Without this asset class, these investors would struggle to replicate the combination of liquidity and return, and would either move towards lower yielding products such as Treasuries, or into riskier products such as corporate or other sovereign debt. Such shifts in asset allocation would not only reduce the flow of capital to mortgage markets, but it could also have a negative impact on the performance of those investment vehicles in times of stress.

PREPARED STATEMENT OF DAVID H. STEVENS

PRESIDENT AND CHIEF EXECUTIVE OFFICER, MORTGAGE BANKERS ASSOCIATION

OCTOBER 31, 2013

Chairman Johnson, Ranking Member Crapo, and Members of the Senate Banking Committee, thank you for the opportunity to testify on behalf of the Mortgage Bankers Association. My name is David H. Stevens and I am the President and CEO of MBA. From 2009 to 2011, I served as Assistant Secretary for Housing and FHA Commissioner at the U.S. Department of Housing and Urban Development (HUD). I have over 30 years experience in real estate finance.

I appreciate the opportunity to share with this Committee MBA's views on how to ensure that the multiple objectives of secondary market reform can be best balanced: ensuring liquidity in the secondary market, providing mortgage products that borrowers want at a price that is competitive, and protecting taxpayers from risk. My testimony today describes how these objectives can be achieved, focusing on the interplay between private capital and a necessary Government backstop.

MBA recognizes that a successful secondary market needs to be more stable and competitive for all lenders with greater protections for borrowers and taxpayers. This system would utilize familiar and operationally reliable business systems, processes, and personnel from the current GSE model. It is also essential that any new system be accessible by lenders of all sizes and business models—as a robust and competitive marketplace benefits everyone, including borrowers, taxpayers, and our industry.

We are encouraged by recent legislative activity that has revived the policy debate on the future of Fannie Mae and Freddie Mac, including S.1217 offered by Senator Mark Warner and Senator Bob Corker. We commend the efforts of the Chairman and Ranking Member for working in a thoughtful and transparent manner as you seek to reach consensus on legislation to reform the secondary mortgage market and create a potential new end state for the housing GSEs.

Objectives of Secondary Market Reform

Five years after being placed in conservatorship, Fannie Mae and Freddie Mac continue to play a central role in the U.S. mortgage market. MBA believes a successful secondary market needs to produce a more stable and competitive system for all lenders. Any transition to an improved system must retain and redeploy key aspects of the GSEs' existing infrastructures, including certain operational functions, systems, people, and business processes.

In order to prevent disruptions to day-to-day business activities of lenders and to ensure a fair, competitive, and efficient mortgage market, any new proposal must be carefully phased-in to protect the housing finance system from unnecessary disruptions.

MBA believes that the secondary market should:

- Ensure equitable, transparent, and direct access to secondary market programs for lenders of all sizes and business models;
- Preserve key GSE assets—technology, systems, data, and people—by transferring them to any new entities created by GSE reform, or placing them into a public utility;
- Promote liquidity and stability by connecting global capital to the U.S. mortgage market;
- Provide an efficient means of hedging interest rate risk through a robust TBA market;
- Provide for a consistent offering of core products including the 30-year fixed-rate prepayable mortgage;
- Provide certainty in mortgage transactions for qualified borrowers;
- Rely on a single, highly liquid, Government-guaranteed security that is delivered through a common securitization platform;

Achieving these objectives will require:

- An explicit Government guarantee for mortgage securities backed by a well-defined class of high quality home mortgages;
- Protection for taxpayers through deep credit enhancement that puts private capital in a first-loss position, with no institution too big to fail; and
- Fair and transparent guarantee fees to create an FDIC-like Federal insurance fund in the event of catastrophic losses.

The Government's role is to provide quality regulation of guarantors and systems and to provide a clearly defined, but limited, catastrophic credit backstop to the system. Without this Government backstop, the mortgage market would be smaller and mortgage credit would be more expensive, meaning that qualified lower and middle class households would have less access to affordable mortgage credit and be less able to qualify to achieve sustainable home ownership and the multifamily rental market, which predominantly serves those of modest incomes, would be adversely impacted.

The Need for a Government Backstop

The American mortgage market has long been dominated by 30-year fixed-rate fully amortizing loans, with no penalty for refinancing the loan. The advantage for borrowers is that it protects them against increases in interest rates while providing a long period over which to amortize the loan principal, thus providing more affordable monthly payments than would be available under a shorter amortization schedule.

The advantages for borrowers, however, are offset by the risks posed to depository institutions trying to hold 30-year fixed-rate mortgages in portfolio, given the short duration of most bank deposits and other liabilities. When interest rates rise, banks may end up earning negative spreads on the mortgages they hold. This funding mismatch can be dangerous for financial institutions.

For example, the thrift industry debacle of the 1980s largely grew out of the removal of interest rate ceilings on bank and thrift deposits for many years. The resulting spike in the interest rates on the deposits funding long-term fixed-rate mortgages essentially wiped out the capital at many thrifts. Similarly, funding mortgages with long-dated fixed-rate deposits can be a problem if rates fall and borrowers exercise their options to refinance their mortgages at lower rates. The bank then faces low or negative interest rate spreads when it reinvests the funds from the paid-off mortgages at lower rates. Thus, relying on bank portfolios to fund 30-year fixed-rate mortgages places tremendous risk on the existing Government support of the mortgage market through the FDIC.

Securitization developed as a means of removing this interest rate risk from depository balance sheets, while providing a long-term fixed-rate asset for investors that had a better capacity to manage such cash flows. However, securitization relies on a steady presence of private investors willing to take on the risks of mortgage-backed securities. We have seen repeatedly over the last 20 years that while investors are generally willing to buy guaranteed MBS, even during a market disruption, they are unwilling to take on uncertain credit risk during these times.

When depositors or security holders become concerned over the health of the assets supporting their investments, they want to liquidate their positions and hold on to their cash until the situation settles. In the case of banks, this is a run on deposits. For securitization, it is a panic sale of the securities with a large drop in price. It is as if bank depositors were forced to sell their deposits to another investor at a deep discount rather than attempting to redeem them at par at the bank. Because those who sell first suffer the smallest losses, there is an advantage to sell quickly before a panic, thus helping fuel a panic. Even if they do not sell, mark-to-market accounting rules do not distinguish between normal price drops and those caused by panic selling, causing large losses for investors.

The question is not whether a Government guarantee will limit the potential damage of periodic panics in the securities. The benefit is clear. The real question is how to go about limiting the risk to the taxpayers that comes with any sort of Government support. Adequate private capital in a first-loss position, the establishment of an insurance fund, and a limited, clearly defined credit box (such as has been accomplished with the QM rule) all would be strong steps in this direction.

In summary, the U.S. mortgage market is unique in the degree to which 30-year fixed-rate mortgages play such a large role in financing home purchases. To date, however, that market has been supported by securitization and the implicit and explicit support the taxpayers have given to that market. MBA believes that such a guarantee can be put in place in order to reduce the volatility that would exist in a purely private market, but that would be implemented in such a way as to limit the exposure of the taxpayers.

Investors Should Be Able To Rely Solely on the Full Faith and Credit Guaranty Behind the Security

Investors should be ensured that they will receive timely payment of principal and interest, and that this backstop reflects the full faith and credit of the U.S. Government. As noted above, the purpose of the backstop on the security is to ensure liquidity even during financial market disruptions. Limiting the coverage to less

than 100 percent would cause investors to question whether the securities would remain liquid in a downturn.

The Government guaranty should be paid for through premiums that build up a Mortgage Insurance Fund (MIF) over time. The MIF only pays in the event that a private credit enhancer goes out of business.

Attachment Points, Capital Requirements, and Risk

A central question in reordering the secondary market is to define where private risk taking ends and where Government support begins. In most proposals, private entities (or capital market structures) are assumed to take losses up until the point that the entities fail (or the structures are tapped out). The key question then becomes how much capital the entities need to set aside to absorb losses, or alternatively, how thick subordinate tranches within capital market structures need to be.

There are several challenges in answering these questions. First, there is uncertainty regarding precisely how much risk resides within a pool, vintage, or population of mortgages. Mortgage losses are a function of borrower, loan, and property characteristics that are measurable at origination. Lenders, investors, rating agencies, and regulators have developed considerable information and analytics which can accurately gauge the relative risk of default and loss from mortgages with different characteristics. For example, Standard & Poors in their 2009 ratings criteria estimate that holding all other factors equal, loans with a 50 LTV are at less than half the risk of default of loans with a 75 LTV, while loans with a 90 LTV are 2.5 times more likely to default. Loans to borrowers with a credit score of 680 are at twice the risk of default of a borrower with a 725. ARM loans have a baseline default rate that is 1.2 times higher. No-doc loans are at six times the risk of full documentation loans.

However, despite these accurate and precise estimates of relative default risk, it is more difficult to get a handle on the level of absolute risk. In a recession, when unemployment increases sharply, default rates across all types of loans increase. A sudden, sharp increase in interest rates can lead borrowers with adjustable-rate mortgages to fall behind on their payments. And as we have clearly witnessed in the Great Recession, borrowers who cannot sell their homes because they are underwater, i.e., their property value is less than the balance on their mortgage, are more likely to default and go to foreclosure. Home price movements are thus a critical factor. Faster rates of home price appreciation such as we saw during the boom can dampen default and loss rates across all types of loans, while steep declines in home prices may lead to higher loss rates across the board.

Lenders, investors, and others attempt to address these economic risks by estimating loan performance across a range of different economic environments, testing the impact of alternative home price, interest rate, and economic scenarios. These experiments result in estimates of performance across a range of outcomes, and can provide a credible picture of the potential distribution of losses one might expect from a given set of loans.

It is worth noting that the range of scenarios imagined may necessarily be limited by historical experience. In more than 70 years, the U.S. had not experienced an economic and housing market downturn that severe since the Great Depression. It is extremely difficult to accurately gauge the likelihood of such a tail event recurring. Are the odds 1 in 70? 1 in 200? 1 in 30? The data do not reveal enough information to accurately make that judgment. It is fundamentally an assumption, and similar to an engineer constructing a bridge, it is reasonable to err on the side of conservatism, but there are costs to being too conservative.

Typical practice in industry would be to target a rating (e.g., "AAA") which is associated with surviving a certain level of losses while remaining solvent. An alternative approach is to define a stressful economic path, and then show that the entity would survive such a stress. The OFHEO risk-based capital test utilized a stress path (roughly a 15-percent decline in national home prices) from the oil-patch recession in the mid-1980s, and then applied that level of losses on a national basis. The Corker-Warner bill requires that entities be able to survive a 35-percent decline in national home prices. (Note that different home price measures and other factors can lead to very different levels of stress, so a larger number may not necessarily be consistent with a more severe stress if a more volatile home price index is used.)

What level of protection is enough? Private credit enhancers should have sufficient capital so that it is extremely rare that the insurance fund is called upon. And the insurance fund and associated premiums should be large enough such that Government outlays would almost never be required.

However, as noted, there is a cost to being too conservative. Requiring capital beyond the actual economic risk drives up costs and would limit access to credit. A balance must be achieved.

Private capital should stand in front of the Government backstop in order to protect taxpayers, but should be at a level to keep credit affordable and accessible to middle class homeowners.

At the loan or at the pool level, substantial private capital should stand in front of the Government backstop in order to limit taxpayer exposure. Most discussions suggest that private capital should take on the "predominant" credit risk.

Congress should set broad parameters for the regulator to establish capital requirements/credit enhancement levels that are in line with regulatory capital standards for mortgages held by other institutions. In effect, Congress should establish a system where there is no opportunity for regulatory capital arbitrage.

Regardless of who holds mortgage credit risk, regardless of charter type, the capital requirement should be the same. For example, legislation should reference the most recent version of the Basel standards when instructing the regulator with respect to proper levels of capital.

In the old regime, the GSEs were only required to hold 45 bps of capital against "off balance sheet" exposure to mortgage credit risk. Banks and other depositories holding whole mortgage loans had to hold 4-percent capital (50-percent risk weight against 8-percent total capital requirement).

Moreover, the banks had a 20-percent risk weight on GSE MBS, so they could hold 1.6-percent capital on MBS. Taken together, the system went from 4-percent capital for whole loans on bank books to 2.05-percent capital for loans guaranteed by the GSEs but held by banks as MBS. Tragically this was too little to buffer against the losses experienced through the downturn.

Not surprisingly, the GSEs rapidly gained market share under this artificial competitive advantage with respect to required capital.

Under S.1217, the securitization channel for conforming loans would have a 10-percent capital requirement. Banks under Basel III are still at 4 percent (5–6 percent for the very largest banks under the new leverage requirement). With this requirement, mortgages would be expected to flow to the banking system. Another worse possibility is that only the highest risk mortgages, which warrant higher capital standards, would be securitized and receive the Government backstop, leading the Government-backed segment of the market to be small, high risk, and high cost.

Lenders originate to best execution. Operationally this means that when they are taking an application and pricing a loan, their systems determine which possible investors/programs might be eligible, sort by best all-in price, then assume that the loan will be sold through the highest price channel (execution).

For example, suppose a customer would like a 30-year loan. The bank he is working with could sell the loan to the GSEs, securitize through a private-label issuer, or hold the loan on their balance sheet. At the time of application, the lender knows the prices associated with each, and assumes that the loan will be sold to the best opportunity, and typically would use that quote to provide a rate to the consumer. Between application and origination and sale, circumstances may change, and the loan may wind up being sold to an alternate execution.

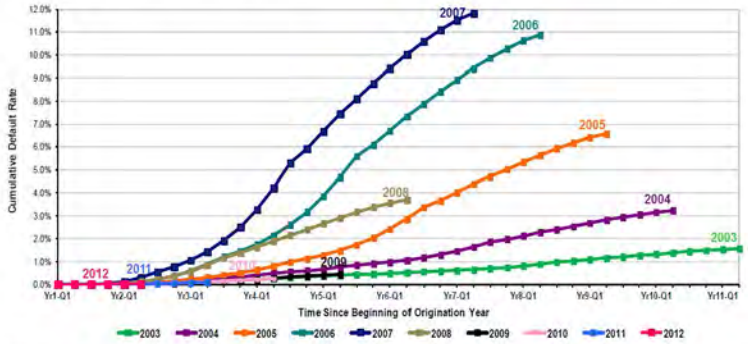
The relevance here is that relatively small changes in the price of one channel can quickly lead to large changes in best execution. A most recent example concerns the jumbo market. Before the run up in rates, private-label jumbo securitizations were beginning to pick up. After that run up, securitization cannot compete with a portfolio execution, so you are seeing jumbo securitizations being canceled or postponed.

A longer-term trend with respect to jumbos is this: typically, the jumbo-conforming spread on 30-year fixed-rate loans had been roughly 25–50 bps. Though not seemingly dramatic, this spread was enough to drive consumer and lender behavior. The ARM share of conforming loans was roughly 20 percent. For jumbo loans it was roughly 60 percent. The relatively small difference in rates on jumbo vs. conforming loans was sufficient to cause jumbo borrowers to choose ARMs.

If the FMIC channel is relatively expensive compared to other executions, one of two outcomes will occur. Either no loans will go through this channel, or only the higher risk loans will go through. This adverse selection would increase risk to the taxpayer, as the insurance fund and the Government would be left reinsuring a much riskier pool of loans.

How do we know that a capital level similar to what the banks are held to would be sufficient to protect taxpayers? There are multiple, sophisticated approaches one could take to answering this question, but the simplest, most direct approach is to simply require that credit enhancers hold sufficient capital so that they could have survived the downturn we just experienced.

Cumulative Default Rates of Single-Family Conventional Guaranty Book of Business by Origination Year



Note: Defaults consist of loan liquidations other than through voluntary pay-off or repurchase by lenders and include loan foreclosures, short sales, sales to third parties and deeds-in-lieu of foreclosure. Cumulative Default Rate is the total number of single-family conventional loans in the guaranty book of business originated in the identified year that have defaulted, divided by the total number of single-family conventional loans in the guaranty book of business originated in the identified year.

Data as of June 30, 2013 is not necessarily indicative of the ultimate performance of the loans and performance is likely to change, perhaps materially, in future periods.

As shown in the chart above, the default rate on the 2007 book of business from Fannie Mae is approaching 12 percent. This book contained substantial amounts of Alt-A and other high-risk business that would be explicitly excluded by a QM requirement. Loss severity, i.e., losses as a proportion of the unpaid principal balance, are running at about one-third. This means that a 12-percent default rate translates to a loss rate of roughly 4 percent on this 2007 book. To the extent that tighter underwriting results in lower default rates, loss rates even in future extremely adverse scenarios should remain below this recent experience.

Charging a modest reinsurance premium (on the order of 10–15 bps) should be more than sufficient to cover any residual risk over time, particularly if the mortgage credit risk is limited by mandating that only QM loans may be securitized.

Beyond this simple analysis, researchers (e.g., Moody's Analytics, Urban Institute, et al.) have conducted substantial econometric analysis that shows that capital in the range of 4–5 percent would cover losses in all but the most extreme scenarios.

Proper Regulation and Oversight To Minimize Systemic Risk

While setting proper capital requirement levels is critical, other aspects of regulation and supervision must receive attention as well.

MBA strongly recommends that the system be set up so that there is robust competition for business in the secondary market, and so there is a credible threat of additional competitors entering the market if existing companies are making outsized profits. Congress and the regulator should work to eliminate barriers to entry. Fannie Mae and Freddie Mac had a legislatively granted duopoly.

In addition to promulgating regulations around capital requirements, the regulator should also have rigorous criteria for approving lenders, servicers, credit enhancers, and other participants in the market. The regulator should also be an active supervisor, with sufficient timely information to be able to make judgments about potential required actions to limit risk to the MIF and to the taxpayer.

The regulator should monitor concentration risks within the system. If the new regime relies upon a small number of entities with highly correlated business models, there is a risk that they could all fail at the same time. Plans for the new system should carefully calibrate capital requirements to mitigate this potential, and contemplate how the new regulator could continue lending until new entities could be formed following a crisis. The ability for the regulator to temporarily lower capital requirements for reinsurance eligibility during a systemic event is a wise and necessary provision.

If the new regime relies heavily upon capital markets to lay off credit risk, the systemic risk potential is that concentrations of risk exposures and leverage could build up in hidden ways throughout the system. Unlike with entities that have clear and transparent capital requirements, capital market leverage can be hidden and can result in multiple, opaque layers of leverage even if transactions appear to be in "cash."

The New System Should Promote Direct Access to the Secondary Market for Lenders of All Sizes and Support a Broad Variety of Business Models

MBA believes that any improved secondary mortgage system should utilize familiar and operationally reliable business systems and processes from the current GSE model. It should also include components to ensure access for lenders of all sizes. Some examples of what the new model should deliver include the following functions:

- Cash Window/Whole Loan Execution
- Multi-Lender Security Execution
- Single Loan Securitization
- Servicing Retained Sales
- Servicing Released Sales

Single-family lenders should be able to utilize familiar credit enhancement options, such as mortgage insurance, to facilitate secondary market transactions in a timely and orderly way. Key functions present in today's secondary market system should be preserved, while allowing new forms of private credit enhancement to develop over time.

It may well take a combination of approaches to ensure that the system works for both smaller and larger lenders. It is imperative that the new system provide access on a competitive basis to qualified institutions, as this vibrant competition will ultimately benefit borrowers.

Under the current GSE model, Fannie Mae and Freddie Mac are the issuers. They purchase loans from lenders and provide a guarantee (backed by an implicit Government guarantee).

Under the Ginnie Mae model, lenders are the issuers. Lenders obtain loan-level insurance from a Government program (FHA, VA, USDA) and then issue the securities, obtaining a security-level guarantee from Ginnie Mae.

The GSE model provides for many, typically smaller, lenders to sell whole loans to Fannie Mae and Freddie Mac for cash. This provides quick funding, which is a valuable benefit for many smaller lenders.

The Ginnie Mae approach puts greater responsibility and control with the lender. However, the operational complexities may prevent some smaller lenders from becoming issuers. As a reference, there are roughly 400 Ginnie Mae issuers, and over 1,000 direct sellers to Fannie and Freddie.

The Corker-Warner bill provides both paths, with an ability for lenders to obtain private credit enhancement and be the issuer, and a Mutual Securitization Company which can fill the aggregation role for those lenders who do not have the operational capability or desire to be an issuer. Additionally, the bill would allow the Federal Home Loan Banks to act as aggregators for smaller lenders.

MBA believes serious consideration should be given to expanding Federal Home Loan Bank membership eligibility to include access for nondepository mortgage lenders. In fact, historical evidence shows that such a move is consistent with the original intent of the system (*see,* Snowden, 2013). These lenders are often smaller, community-based independent mortgage bankers focused on providing mainstream mortgage products to consumers. In exchange for membership in the FHLB system, these institutions could be required to hold a limited class of stock with appropriate restrictions. Expanding FHLB access to these institutions would enhance market liquidity and ensure a broader range of mortgage options for consumers.

Getting More Private Capital Back Into the Market Today While the Legislative Process Continues To Refine the Proper End State

Fannie Mae and Freddie Mac have recently reported substantial profits, leading some to ask whether the business models of Fannie Mae and Freddie Mac have regained credibility that was lost during the financial crisis. Record GSE profits do not tell the whole story. In their current form, GSE profits are dependent in large part on three factors:

- Guarantee fees, which have more than doubled in recent years.
- Remarkably low-risk business, a sign of tight credit.
- Their ability to shift legacy costs back to lenders.

This current status is not sustainable over the longer term, and MBA believes that we should begin moving toward a more sustainable environment. While the legislative process will continue to refine the desired end state, MBA has proposed a set of transition steps designed to move in the direction of the developing consensus

regarding the shape of the future secondary market. The steps we propose, none of which require legislation, create an even greater competitive landscape for all originators beyond where we are today, and provide better value to borrowers. Further, they are consistent with the vast majority of end-state proposals.

- FHFA and the GSEs should move to a common, fungible MBS to improve liquidity in the market. The discount on Freddie Mac's security represents a loss to the taxpayer, as it is being implicitly subsidized by lower guarantee fees resulting in lower dividends to the Treasury. We should act now to remove this distortion by moving to a common, fungible security.
- FHFA should mandate that the GSEs accept deeper credit enhancement on pools from lenders in exchange for reduced guarantee fees in order to lower costs and increase access to credit for consumers. The PATH Act includes language to this effect, which we would support as a means of bringing additional private capital into the market. Importantly, we believe that lenders should have "front-end" credit enhancement options in addition to the "back-end" options, as we believe the former have the potential to produce greater cost savings for consumers.
- Regardless of which end state Congress decides upon, we need to ensure that lenders of all sizes have securitization options to directly access the secondary market in order to level the playing field.
- FHFA should impose a well-regulated and fully transparent credit framework with clear representation and warranty protections to increase transparency in the system and enable lenders to responsibly expand access to credit.
- FHFA should continue to seek stakeholder input regarding the Common Securitization Platform to lay the groundwork for a more efficient market in the future. The PATH Act also contains plans for a new market utility that would perform many of the roles and functions envisioned for the platform, with the exception that the bill would not permit the utility to securitize Government-backed loans. While we appreciate the agreement that such a central, operationally focused utility is needed, we do believe that some level of Government backstop is needed for the conventional conforming market.

Below is an illustrative example of how MBA's proposal for up-front credit enhancement would work. In today's market, private capital can be competitive with the GSEs in certain segments. If guarantee fees were to increase further, borrowers could realize real savings through this approach at the same time that taxpayer exposure to the mortgage market is reduced.

Upfront Risk Share Proposal – Illustrative Example

	Credit Enhancement Costs - Current			
90 LTV	MI Premium	Base Gfee	Upfront Gfee	Total
760+	0.44%	0.55%	0.13%	1.12%
720-739	0.49%	0.55%	0.13%	1.17%

- Up-front Gfee reflects loan-level price adjustments (LLPAs).
- MI premium is standard 25-percent coverage. Pricing is by credit tier.

	Credit Enhancement Costs - Potential			
90 LTV	MI Premium	Total Gfee	Total	Potential Borrower Savings
760+	0.75%	0.20%	0.95%	0.17%
720-739	0.80%	0.20%	1.00%	0.17%

- Proposed deeper coverage (45 percent on 90 LTV) accounts for vast majority of the risk.
- 10 bps covers catastrophic risk assuming MI is sufficiently capitalized.
- 10 bps for payroll tax.
- Specific Gfee is most sensitive to level of MI capitalization and required returns for GSEs.
- Savings to borrowers are significant. Would extend to borrowers at lower credit tiers as well.

Process

- Each approved MI would file a standard pool policy with FHFA/Fannie and Freddie and the insurance regulators so that everyone was clear on the structure—the simpler, the better.
- Any approved lender could deliver deep CE pools to the GSEs for a Gfee discount.
- Menu approach—lenders would have the option to deliver loans and pay the full Gfee, or arrange for deeper CE through an MI or by retaining recourse, and pay a much reduced Gfee.
- MIs would compete for the business on total price, but also on mix of business, e.g., LTV and credit score. Allows for differences in views on credit.

Multifamily Finance Key Principles for Multifamily Housing Finance Reform

Our views on the multifamily housing finance market run parallel and are consistent with our views on the single-family residential market.

More than one in three American households rent their home, and more than 16 million [1] of those households live in multifamily rental housing, a development with five or more units. Renters include workers who want to live near their jobs, young professionals, empty-nesters, retirees on a fixed income, families with children, students, and households who value the convenience and mobility that renting offers. Notably, the vast majority of multifamily rental housing provides homes for households earning modest incomes, with 93 percent of multifamily rental apartments having rents affordable to households earning at or below the area median income. [2]

Recognizing the unique attributes of the multifamily market as a key component of the broader housing finance system, we believe that policy makers should pursue the following principles in shaping the Government's role in the multifamily housing finance system.

First, our Nation's housing policies should reflect the importance of multifamily rental housing, the range of capital sources that support this market, and the need for liquidity and stability in all market cycles. The number of renter households in multifamily housing is expected to grow from the current estimate that exceeds 16 million. A broad range of capital sources support the multifamily finance market, including private capital sources. The roles of the GSEs and FHA in financing multifamily mortgages have been substantial, but other market participants—including life insurance companies, banks, and other lenders—have maintained a strong presence as well. With respect to the GSEs' multifamily activities, credit performance

[1] 2011 American Housing Survey.

[2] Joint Center for Housing Studies Tabulations of 2009 American Housing Survey, U.S. Census Bureau.

has been strong during the recent market downturn and, with Government support, the GSEs have served a countercyclical role that provided liquidity when private capital sources largely exited the market.

Second, private capital should be the primary source of financing for multifamily housing with a limited, Government-backed insurance program ensuring that the market has access to liquidity in all cycles. The risk insurance program would provide support at the mortgage-backed security, rather than at the entity, level. The role of private capital is vital in several respects: (1) the deployment of private capital through market participants that have historically supported multifamily finance, such as portfolio lenders and CMBS investors; (2) the private capital that is already embedded within existing market executions (e.g., DUS, K-Deals) through risk-sharing structures; and (3) the investment of private capital in entities that would be permitted to issue Government-backed securities. We believe that a focused role for the Federal Government through a Government-backed risk insurance fund, with a Federal catastrophic backstop, would ensure continuous liquidity and stability in all market cycles. Eligible mortgage-backed securities would have a Government wrap. The insurance fund, paid for through risk-based premiums, could be modeled after FDIC programs and would support such mortgage-backed securities, not at the level of the issuer, as is the case today.

Third, entities eligible to issue Government-backed securities should be funded by private capital, be focused on securitization, serve the workforce rental market, and be regulated in a manner that protects taxpayers and ensures robust competition among capital sources. A strong Government regulator with market expertise would provide oversight regarding the issuing entities, including their safety and soundness, risk-based capital requirements, and products offered. The entities, which would not be limited to potential successor entities to the GSEs, also would assume a significant risk position by providing an entity-level buffer, placing private capital at risk ahead of any Government backstop. Risk-based premiums would be deposited into a Federal insurance fund, to be drawn upon only if and when the entity becomes insolvent. The pricing of the premiums would be structured in a manner that allows robust competition. Importantly, the issuing entities would need to attract private capital and maintain financial viability. We believe, however, that they should be mono-line institutions limited to secondary mortgage market activities and the housing finance sector, with a focus on workforce and affordable rental housing.

Fourth, stewardship of existing GSE assets and resources on behalf of taxpayers should be a core consideration for any action—during the current period of conservatorship, any transition period, and in the future state of multifamily finance. The talent and expertise at the GSEs, their existing books of business, their market executions, and any profits generated by their multifamily businesses are valuable to U.S. taxpayers and should be deployed in a manner that supports the future state of multifamily housing finance. Preserving and dedicating such resources would support an orderly transition to a new mortgage finance system and optimize potential returns to taxpayers. Fundamentally, the "do no harm" principle should govern, particularly in light of the stability and successes of the multifamily market overall.

We wish to underscore that as policy makers deliberate the future of the Government's role in multifamily housing finance, it is vital they ensure that capital continues to be available to support this essential source of housing.

In conclusion, I appreciate this opportunity to again present testimony before this Committee, and look forward to answering any questions you may have.