PANEL THREE: THE FUTURE OF FANNIE MAE & FREDDIE MAC

MODERATOR: Mark A. Willis
PANELISTS: Viral V. Acharya, Jason H.P. Kravitt, Brian O'Reilly, Greg Reiter, Susan Wachter

BENJAMIN BERRINGER: We're now at the final panel of the day, which is going to address what were called the $750 billion gorillas in the room, or the elephants in the room, depending on your perspective, but Fannie and Freddie Mae, the one aspect of the financial crisis that was skipped.

Our moderator for this panel is Professor Mark Willis of the NYU Furman Center and the founder of Chase's Community Development Bank.

Without further ado, I'll let him introduce the panel and get it started. Thanks guys.

PROFESSOR MARK A. WILLIS: Thank you Ben.

I think everybody has their program so, if you'll forgive me, I'm not going to go through the complete description of all of our panelists other than to say that they are extremely distinguished, knowledgeable and all have a point of view, which they nicely agreed to share with us.

So I think the format here is they'll all speak for a few minutes. I promise to be the timekeeper so we make sure that we do have time for Q&A at the end.

So I'd just like to set this up in a couple sentences, mainly because I just want you to start to think about some issues as we think about the future of Fannie and Freddie.

We're going to hear a range of views of what went wrong, whether it was the private markets that went wrong or whether it was government that went wrong or some combination. So that's a theme you really want to think about, and it comes back and is relevant, about the role of government in regulation, what it can do, what we can expect it to do and in addition to that, other parts of the market that some people refer to as the "shadow banking system" that is unregulated and that there will be competition with and some people will probably talk about; that resulted in a race to the bottom between the regulated sector and the less-regulated sector.

So you'll hear conversation about what kind of interventions are necessary, what kind of regulations might make sense, are there other interventions required. In that case specifically, is there a need for the government to intervene and provide some sort of guarantee? As you know with regard to Fannie and Freddie, the guarantee was implicit, but in the end, the government did stand there and has now taken them over into conservatorship.

So there will be the question of whether you need that level of intervention for Fannie and Freddie or whatever might be the successor institutions for them.

Part of the conversation that you might hear is also that there is another entity out there, FHA - actually FHA, VA and rural housing - that provide mortgages, and those are guaranteed by a government agency called Ginnie Mae. So we're going to talk about what to do with Fannie and Freddie. Sometimes it's hard to get to that without talking about FHA, the Federal Housing Administration. There's another piece of the puzzle that you want to listen to.

And ultimately the question is: do we need a Fannie and Freddie? Do we need a successor to them? As part of thinking that through, we're going to hear a little bit about some other countries. We are fortunate to have some members of the panel who have had deep experience in the systems in the other countries and can share that with us.

So without further ado, I'd like to introduce everybody very briefly. Viral Acharya to my left here, did I get that close?

PROFESOR VIRAL V. ACHARYA: Yes, pretty good.

PROFESSOR WILLIS: Professor of Finance at the Stern School here at NYU. Next in line is Greg Reiter who is a Managing Director, Head of Agency MBS Strategy at RBS Global Banking and Markets. Susan Wachter is the Richard B. Worley Professor of Financial Management at the Wharton School of the University of Pennsylvania. Brian O'Reilly, President of the Collingwood Group. And last but certainly not least, Jason Kravitt, who is a Partner at Mayer Brown LLP.

So, without further ado, let me turn it over to Viral.

PROFESSOR ACHARYA: Thank you. It's a great honor to be here especially talking about such an important part of the financial sector reform, one that's not been touched upon much in the Dodd-Frank Act at all except in indirect ways, and

one that seems to be the theme for this year: what are we going to do about Fannie and Freddie?

Much of what I talk about today is based on a forthcoming book. It's called "Guaranteed to Fail: Fannie Mae, Freddie Mac and the Debacle of Mortgage Finance." And you can sort of guess from the title where we are headed as far as our assessment of what led to the failure of Fannie and Freddie is concerned.

The book is supposed to be highly readable. It has a lot of quotes, has one too many, but there's one quote that all four authors of the book - myself, Matt Richardson, Larry White and Stijn Van Nieuwerburgh - like a lot. This is a quote from David Frum. He's a columnist and a speechwriter for President George Bush. In an article in Nashville Post in July last year, he summarized the GSE outcome in a very interesting manner. He said, "The shapers of the American mortgage finance system hope to achieve the security of government ownership, the integrity of local banking and the ingenuity of Wall Street. Instead they got the ingenuity of government, the security of local banking and the integrity of Wall Street."

The book talks about a lot of things, but the first part of the book is focused on what we call "feeding the beast." We argue that even though Fannie and Freddie were out there, they did not really capture a very big, large share of the market pretty much until the late eighties. They were a reasonably small share of the overall mortgage business.

But especially from the nineties onwards, their share in the mortgage activity became extremely large, and to the point where out of the total mortgages being guaranteed in the United States at the peak of the boom, their share was over 50%. And when you see a market share of this type in any industry, either the firms that everyone is talking about have to be phenomenally superior to someone else or there has to be some other distortion.

One of the standard results in the industrial organization theories is that if one party has an access to government guarantee so that their cost of capital is lower than anyone else, and they operate with exactly the same freedom as others do, they are the only ones who can survive in the long run. And that's because no one else can actually provide the same business at the same cost of capital.

So our view is that when mortgage finance was reformed in the eighties and early nineties, and the private label mortgage securitizers were allowed to enter the business, rather than seeing a healthy competition as one expected to see, what unfortunately happened was the kind of outcome that I just described: a set of private mortgage securitizers entered the market, but they could never really compete with Fannie and Freddie in the latter's business of guaranteeing prime (or conforming) mortgages because Fannie and Freddie always had a cheaper cost of capital than they did. In other words, the private players could only enter the market where Fannie and Freddie were not allowed to go for a while, which was in the non-conforming mortgages that didn't meet the 80% loan to value ratios, which had certain large size of underlying principle amounts, and so on.

We describe in the book that what really happened was "a race to the bottom," where because Fannie and Freddie were always able to provide prime mortgage guarantees at a cheap cost, they essentially crowded out the private securitizers from one part of the market forcing the private securitizers to go somewhere else. Private securitizers thus entered the riskier sub-prime mortgage guarantee business.

But then Fannie and Freddie also had a slightly conflicting agenda in that they were originally supposed to do conforming mortgage guarantees, but the government increasingly wanted them to do some affordable housing. Ultimately thus, Fannie and Freddie also ended up feeding the subprime mortgages out there, sometimes purchasing them outright and at other times buying securitized assets backed by subprime mortgages from the private securitizers.

In total, these shifts lowered the quality of sub-prime mortgages significantly, fueled the housing price bubble, and when the bubble burst, left private securitizers and Fannie and Freddie strapped of capital.

When we look back, we find it actually somewhat astonishing that we did not have Fannie and Freddie making losses earlier than they eventually did. We think it was a foregone conclusion, given the size of the guarantees that they were writing, that we were going to see this blow up at some point or another simply because they were not being asked to hold

much capital for the quality and the size of the mortgages that they were underwriting.

So a big question now is how to reform this system. And to us, first and foremost what needs to be done is to really price the government guarantees that are being provided to the mortgage market. In other words, fix the fundamental distortion that if the provider of mortgage guarantees is not ultimately bearing the risk of providing these guarantees (the taxpayer is), then there will always be an excess creation of these guarantees out there in the market.

Our overall proposal has three principles for reforming the system. The first principle is that in the 2000s, Fannie and Freddie were allowed to develop an investment function, which pretty much looked like what we call a government-subsidized hedge fund. Essentially, because Fannie and Freddie could not get their first hands onto subprime mortgages that were going to private securitizers, Fannie and Freddie got a license from the government to purchase AAA mortgage-backed securities where the underlying mortgages were of the subprime type.

Now, when you think about what this does, essentially Fannie and Freddie could take a bet on the tail risk that you will not a get a secular housing price decline in the United States. But for all practical purposes, they were doing it with risk-free debt. They were doing it with the implicit guarantee of the U.S. government for funding these investments.

Our first principle is that this should just be discontinued. They should not be allowed to speculate in the mortgage market with debt which has been issued with the implicit guarantee of the U.S. government.

Second, as I said, as long as the guarantees remain mispriced we think there will continue to be a problem of excessive guarantees out there. So we need to restructure the GSE guarantees, and here there are two models which are somewhat polar.

One is to say that tail risk guarantees, guaranteeing the risk that mortgages all across the United States will collapse, can never be provided by anyone other than the United States government. This model would basically say that "let's completely nationalize this business so that you don't get a race to the bottom at all." Only Fannie and Freddie can basically do

this thing or some other government sponsored entity that gets created in replacement.

The other option is to say we get the government out of this all together. Let's privatize this system entirely.

What are the pros and cons? For us, they are relatively simple. In the case of the nationalization, the con is that you don't price the government guarantee. Governments by and large don't price guarantees. They are off the balance sheet from the government debt. That's one of the reasons why Fannie Mae was actually privatized in the sixties: to take their debt off the government balance sheet. And as long as politicians are not really feeling the pressure of this debt, they're unlikely to charge for these guarantees.

What is the pro? The pro is that when you have a tail risk involving the economy, the one body that might be standing out there is probably the government and not the rest of the financial sector.

The privatization option, in contrast, will probably have success at pricing the guarantees. We price put options on the S&P 500 at very, very low strike prices. The private market knows how to provide this insurance. What is the con? The con is that maybe at a time when all of these securitizers get into trouble at once, it's not credible that you will actually let them fail. Therefore, they won't have the incentives to price this right, and then you will still have the same problem as we had before.

So our preferred solution is to exploit the good properties of both of these. It's a hybrid solution or a private-cum-public solution in which the government-sponsored agencies won't decide what is actually being guaranteed. That will be a decision of the private sector securitizers. However, for every loan or every mortgage that the private sector securitizes, the government-sponsored agencies will provide a guarantee for, say, 25% of the guarantee, and the remaining 75% will be provided by the government. But the guarantee will be provided at a price which is set by the private securitizers.

Now how does this get around the two problems? It gets around the con of the nationalization option by creating a market for pricing these guarantees. We believe that if that market is run well, you can get some price discovery out there just the way we are pricing put options on tail risk of the econ-

omy in other markets out there. Now, for this to work it is absolutely critical that the private entities which are deciding what to securitize and what to guarantee are not too systemically important. If they are the entire mortgage market, they will have full confidence that if we all fail, we are basically going to be bailed out just like Fannie and Freddie and many financial firms were in this crisis.

So these entities need to be kept somewhat small so that their risk is not the entire risk in the mortgage guarantee business, and if they are kept small, you could manage their systemic risk better. You could capitalize that systemic risk better so as to be away from the too-big-to-fail or too-systemic-to-fail kind of guarantees that would otherwise compromise the private market that is out there.

The government would be a silent partner. It would not decide the mortgages that are being guaranteed out there. However, to the extent that there is still the risk that the private sector may not do the pricing right, because they perceive that in the tail we are actually not going to be able to do it, we have a second compromise which is to say that only the conforming mortgages should actually be guaranteed by the public sector. So the government guarantees would go back to what Fannie and Freddie were doing until their underwriting standards got compromised and the guaranteeing of anything that's non-conforming, or sub-prime, or some other exotic type will still be done by the private sector but subject to very strong restrictions. A good restriction might perhaps be ensuring the maximum loan-to-value restriction of say 80% and having in place an irrefutable resolution authority for the private sector financial entities.

So let me stop there. There are a few nuances here which perhaps should be discussed but maybe they'll come up in the questions afterwards.

PROFESSOR WILLIS: Thank you very much. Greg?

MR. GREG REITER: So I'm just going to add a little bit to what Professor Acharya was talking about. In particular, our viewpoint at RBS and kind of a market practitioner's viewpoint is that it's not really practical or possible to sort of start with a clean slate and just say "Okay, we're going to redesign a whole new housing finance system in the U.S." Many of the things that he said I would have to agree with and say that they make

a lot of sense, but I think what will hopefully end up happening is that we'll have application of a lot of these important points applied via tuning the existing institutions that we have.

So I'm going to talk a little bit about what the GSEs are doing in mortgage finance now, what roles they should be playing, the timing of what we call GSE reform, expected developments over this year and really next year as well.

I'll use one of the examples of elements of success that we see in the Danish MBS market. I worked on the first Danish CMO. I'm not that old, not MBS but CMO.

PROFESSOR WILLIS: Collateralized mortgage obligation.

MR. REITER: Collateralized mortgage obligations; that's taking a mortgage-backed security pool and cutting it into different pieces. Finally, I'll talk a little bit about the actual way we think any kind of housing reform or changes will take place given the realities of politic, institutions and so forth.

All right. Themes for 2011; well, the mortgage market will continue to be dominated or has been dominated by agency MBS. In 2009, over 90% of all U.S. mortgages created were guaranteed by either Fannie, Freddie or Ginnie Mae. In 2010, that number was right at 90%. The other 10% is kept on lender balance sheets with one little exception. There was a small private deal done in early 2010 by Redwood Trust. So believe it or not, there was only one non-agency securitization done in the last two years, not including recycling existing deals so called re-REMICs. So that's just a fact. We think that's going to continue for a while.

Next, GSE reform, what do we have? In the interest of full disclosure, I used to work at Freddie Mac. So what I see here is they did not fail because they were stupid, but they did face conflicting goals. It's not really possible to have a model of maximizing profits in the interest of shareholder goals, and also have goals of supporting affordable housing in a way that could be uneconomic.

Overall, the risk-based pricing wasn't there. The guarantee fees that Freddie and Fannie received really didn't make sense in terms of the expected losses and the cost associated with loans that go bad, especially in the terrible underwriting years of 2006 and 2007. Third point, the government direction to prop up the housing market in the last few years actually was largely responsible for, in my opinion, a lot of the $155

billion that Freddie and Fannie have taken from the Treasury since they were taken over.

So it's a complicated situation. We're guessing that for the next couple of years the GSE structure is unlikely to change. One reason is that banks are unwilling to lend in the private markets at prevailing rates. Some various analyses that we have show that interest rates need to go up three to 400 basis points from the current levels to incentivize a bank to make loans to a lot of borrowers at a profitable level; not even at a level of engougement, but just to break even. And that's going to be somewhat complicated because a lot of regulations that we're now seeing are going to make it difficult for banks to lend to lower credit borrowers.

And the housing market is just too fragile. In other words, without question, Fannie and Freddie need to shrink but at the same time, even critics of them realize it's going to involve raising interest rates, and that's going to harm the housing market in the short run. It'll probably be very good in the long run.

Other obstacles are that the market for agency mortgage backed securities is very liquid and very soundly traded. It's over $5.3 trillion. It's actually slightly more liquid or as liquid as the U.S. Treasury market. And the so called TBA market, a futures market in which most pools of mortgages are traded, is incredibly well functioning. It attracts a lot of capital worldwide. The Fed, the Treasury and various regulators are afraid to disrupt that because it would potentially stop the flow of capital (at least temporarily) into the mortgage sector.

And it would be actually very difficult to merge or totally change the GSEs right away, just because now they have so much of the market and, again, private lenders are unwilling and unable to come back right now. So what we're saying is we're going to see a slow return back to a more functioning market, but it will be a while.

So what are we going to see this year? Well, first of all, by the end of this month, early February if they delay it a little bit, one of the elements of Dodd-Frank, as you know, is that the administration has to come out with a white paper. It may come out next week or so. We keep hearing rumors now, discussing the future of the GSEs and the eventual state of Fannie and Freddie in particular.

As you heard my predecessor say, the portfolios need to shrink and, of course, they've been mandated to shrink since they were taken over in 2008 by the government by roughly 10% every year. So we don't think that's going to be changed anyway. The portfolios will shrink at least at that rate.

There needs to be a focus and hopefully an improved focus on risk-based pricing. For example, since the sixties, really since Fannie started getting into this business, Freddie starting in 1970, there has been exactly a 25 basis point fee paid to a servicer to service any Freddie or Fannie loan, regardless of the quality or the state of the loan or how it changes. That's probably much too high for a very good quality borrower and frankly much too little for one that falls apart and requires a lot of intensive servicing. So there's a lot of talk about changing the fee structure.

Just as well, we know that Fannie, Freddie, and Ginnie Mae have been actually adding a lot of risk-based pricing since late 2008. In other words, now there is a very big difference in the interest rate a borrower faces when getting a loan as compared to a few years ago. So a good borrower now has to pay about 200 basis points less than a less credit-worthy borrower, even for a loan that's guaranteed by Fannie or Freddie. Four years ago that difference might have been 30 or 40 basis points.

Finally, regulatory reform is going to do a lot of things to affect what's going to be happening in terms of the reemergence of private label lending, or lending that is not guaranteed by Fannie or Freddie. A lot of this has to do with uncertainty: Dodd-Frank and Basel III, for example, both of which have a lack of clear definition on capital and liquidity requirements, for example.

Next, this is kind of a fun example. It's very interesting, but why is Denmark successful? The only other country other than the United States that has 30-year fixed rate mortgages in which the borrowers also have the right to prepay without any penalty is Denmark. It's been around for a couple hundred years. Believe it or not they've never had a bankrupt lender. They call them mortgage associations. Think of it as an S&L. They've also never had a bond default. At the same time, 100% of their mortgages are securitized. It's required.

They have a very simple arrangement. Basically, in Denmark, they gear financing of homes towards creditworthy borrowers as opposed to just basically allowing a lot of increased home ownership. At the same time, the borrower is able to not only prepay their loan or refinance it because the interest rate goes down. If the price of their loan - because they can actually check on the markets everyday to see what their loan trades at in the securitized form - if it's trading for less than par, they can actually buy it back at a discount and basically refinance it, usually a higher rate.

As odd as that sounds, what's interesting there is that then they have the smaller loan with a higher interest rate, but then the next time rates go down, they refinance that and shrink it. So overall, through ups and downs in economic and housing price cycles, Danish mortgage borrowers have a relatively good amount of equity in their houses. They're really unable to cash out, refinance and take away the equity.

Finally there are some important differences between Denmark and the U.S. There's a cultural difference. The borrowers are shamed if they're not paying. Their names go up basically like "wanted" figures in the post office and in the local S&Ls. They're just a different culture. And of course like in most developed countries outside of the United States, there's full recourse to the borrower. So if you don't pay your mortgage, they can go after you the way they could for someone in the U.S. typically who isn't making a court ordered alimony payment or something like that. You can't run away from your mortgage obligation in Denmark.

There have been some changes. In 2007, the European Union allowed a lot of different kinds of mortgages to be added to Denmark. That's been very interesting partly because Basel III in particular, which won't be implemented for a few years, in its current form makes it looks like the savings and loans won't be able to count the mortgages that they keep on their books as fully liquid assets. Actually, the EU yesterday announced that it's going to be seriously taking this into consideration and maybe allowing it. These are considered covered bonds. So these are mortgage-backed securities that also have kind of a bank guarantee on them, but no government support whatsoever. So there's a lot of uncertainty still.

Basically I think that the real outcome's going to be that we're going to see a three-tier system continue, a Ginnie Mae government system, a Fannie/Freddie GSE system, and a private system. But the proportions of involvement have to change, and that's probably what we're going to see over the next couple years.

PROFESSOR WILLIS: So it's a little bit different than the proposal here and I think we're going to hear another perspective on this from Susan.

PROFESSOR SUSAN WACHTER: Thank you very much for the invitation to be here.

The response to the crisis and particularly the response to important question that this panel is discussing: how to replace Fannie and Freddie depends on how one understands the source of the crisis. I will provide a perspective on this and then end with a two-part solution, for the short and long run.

The origin of the bubble and then the crash lies in the unprecedented procyclicality of leverage. The volume of debt relative to GDP grew enormously in the household sector, with the debt increase almost entirely made of increased mortgage obligations. The financial sector debt grew as well, to a large extent, with household mortgages as the underlying collateral.

This was a supply side phenomenon, and by that I mean that the increase was due to a shift in the supply of mortgages to the market that was larger than the shift in demand. How we do know this? We know because in fact the cost of debt went down over time. That is, the risk spread decreased. If the phenomena had been driven primarily by a demand increase the cost of debt would have gone up.

The identifier of a greater supply shift relative to a demand shift is seen in the declining cost of debt, with a decline in the "risk spread," and a compressed yield on private label mortgage securities relative to Treasuries.

Now at the same time the riskiness of the book of business increased. An ex ante increase in default risk, is observed in increases in both CLTV and DTI, the DTI increase is apparent in the growth of low doc, stated income loans. Normally increased risk would be charged for through a higher risk premium. The fact is that the interest rates on private-label-securitized mortgages decreased, while the quality deteriorated and the volume ballooned.

Here's how it happened: Misaligned incentives and fee-driven compensation drove securitizers to focus on short-run profits. And there was a lack of transparency on the pricing of the MBS and the underwriting quality of the mortgages.

From 2003 through 2006, the rapid increase of PLS resulted in a deterioration in the quality of mortgages, as well as an increase in leverage in the financial system and household sector, but the deterioration in quality and the coincident underpricing of risk was not known. Despite the important likely implication of this underpricing, the asset price increase of 2003 through 2006 was at least in part due to the underpricing of risk rather than any positive shift in fundamentals.

As of 2005, economists at the Fed, according to a recent report, did take note that housing prices were probably 20% too high relative to fundamentals but they hoped that prices would level out. This was not to be, or likely to be, because the pricing of risk was inconsistent with the concurrent underwriting quality of the mortgages that were being originated and securitized.

Leverage drives up house prices as standards are deteriorating and more effective housing demand comes into the market, and as more effective housing demand comes into the market, credit expands and prices rise further. Price expectations become capitalized and, when deterioration in standards, 100% loan-to-value ratios, no-doc loans, interest-only and negative amortization, can go no further, there's no more means to drive up housing prices. Housing prices stall, but they stall only temporarily because there is a capitalization of expected house price increases which is now reversed. At that point prices fall. The deterioration in the underwriting of credit leads to early defaults. When prices declined, this, together with the deterioration in credit standards, lead to a surge in foreclosures. But this was not known in real time or near time. That is, the joint phenomena of non-priced risk in underwriting and asset inflation was not known as it developed over time. The data that we just saw were not available real time or near time to policy makers or to most investors.

In the short run we have no choice but to have catastrophic insurance. Today nearly 90% of mortgage debt is government backed debt. In the long run this is not a sustainable solution. A second reason we need catastrophic insurance in

the short run is to support restructured markets so that private capital will replace government backed debt. This will occur if market structures provide transparency and standardization so that market risk can be measured and analyzed. In order to regulate the market, there must be a quid pro quo in the short run. Standardization of mortgage debt terms and reporting in return for government guarantees whether this is through the implicitly backed bank provided mortgage debt (through demand deposit insurance) or through new entities. In the longer run we must regulate in a two-tier solution both the portions of the market that receive a priced catastrophic risk insurance (whether implicitly as in the banking system or explicitly) and those that do not. In any new entity that takes the place of Fannie or Freddie, there should be private capital at risk in the first loss position even though there's a catastrophic guarantee because the government will step in if there is a serious crisis no matter what.

So in summary, a two-part solution: The key question is why were investors not knowledgeable? There was asymmetric information that's in part due to reliance on credit rating agencies, that's in part due to the fact that the information on marginal risk simply was not available. We heard in the first panel that part of the goal of the Dodd-Frank pushing trades in CDS which was completely part of the asymmetric information since the risk in CDS was not priced, is to push these on to exchanges so that we can have standardized instruments that trade that we can see prices and we can know how much debt is out there, and react to that by appropriate changes in capital standards.

If all that comes to be, then in fact we have made progress. In the short run because we're not there yet, I believe we do have to have catastrophic government insurance paid for, priced, and why is that? Because in order to require issuers of securities to abide by standards, to maintain standards and not undermine standards, there needs to be a regulator that has the strength to require this.

I and co-authors have written several papers which lay out the results discussed above. I have not given them the credit that I should so please view the papers in the research citations. Thank you.

PROFESSOR WILLIS: Thank you Susan. We now have a very broad spectrum of views on the source of the causes and the role for government. So Brian, why don't you shed a little bit more light here on some of the more specific aspects of it?

MR. BRIAN O'REILLY: Sure, thank you Professor Willis. I want to also thank our hosts and my esteemed co-panelists for this opportunity. It really is, for us and my partners in our firm, an exciting time to be in financial services for reasons that others touched on in earlier panels. We're seeing a historic re-architecture of both the financial services industry and, in particular as it relates to Fannie and Freddie, the re-architecture of the housing finance industry. It is quite remarkable. We have the opportunity really to be both witness to these changes and, through panels like this, really to provide meaningful insight and input into what this recast industry looks like and how it functions in the future. I think that's pretty important.

As we think of this re-architecting that's occurring, we think of it as having really three distinct phases. The first is the legislative and regulatory phase that took form first in the passage of Dodd-Frank, and which will be completed as the implementing regulations are approved and promulgated and then ultimately implemented by the industry. It's the second and third phases what we refer to as really the goal-setting phases and the implementation phase that I think are the reasons we're here today.

From our perspective, goal setting involves identifying and agreeing within the industry with respect to what are the large macro-goals and objectives that the government and industry seek to achieve through the creation and the management of the housing finance industry, and then, of course, the implementation phase which really is about determining and agreeing which instrumentalities, government instrumentalities, private sector instrumentalities or businesses are the most appropriate for purposes of achieving success in connection with those goals.

Obviously it's important to think about it in these terms. One of the panelists in the earlier session spoke about the lack of or failure of confidence, the crisis in confidence that precipitated, in large measure, the crisis in 2008. We are strongly of the belief that that crisis in confidence, though it has abated

somewhat with respect to the financial industry, generally is very much still in place with respect to the housing finance system. I think the best evidence of that is borne out by the point made by one of the earlier presenters, that 90% of the loans that are being underwritten in today's marketplace and securitized are being guaranteed by Fannie, Freddie, or Ginnie Mae.

How we define these goals, and how we ultimately agree on how they're best implemented, I think, will determine for purposes of the private market - the investors in these securities and these assets - how well we've done and how well we do with respect to addressing that crisis in confidence.

With respect to those goals, I think that there is more agreement than disagreement. I think generally speaking most parties to the debate agree that we want a strong and sustainable liquidity in the secondary market, particularly as it relates to what we generally think of as the conforming mortgage market.

Secondly, I think everyone generally agrees that the Fed agrees and Congress certainly agrees that we want to do this is a way that minimizes systemic risk; and I think minimizing systemic risk, to the point just made, requires that we have systems, processes and infrastructure that enable real transparency. That was absolutely lacking during the period 2002 to 2007. It was particularly absent from the subprime sector and, as a consequence, investors in those securities were relying entirely on the ratings agencies for purposes of determining the credit worthiness or the value of those securities. And I think obviously they did so at their own peril, and we have suffered mightily for it.

Without doubt, how we recast the housing finance industry should be done in a way that minimizes the potential risk to the taxpayer. I don't think, and I think many of my colleagues would agree, that a mortgage housing finance system that is today essentially nationalized is probably not one that is in the best interest of housing finance generally for many reasons, not the least of which is that it is not one that will generally support the types of innovation and evolution that I think will best serve American homeowners over the long term.

And, of course, last but not least, I think it's a very important goal to promote access to affordable credit to moderate

and low-income borrowers under appropriate circumstances, and certainly Fannie, Freddie, FHA and Ginnie Mae serve this purpose today. The question then becomes what are the right instrumentalities to achieve these goals. Unlike at least one of my predecessor panelists, we absolutely do not believe that recasting Fannie Mae or Freddie Mac is the right answer to that. We absolutely agree that there will be a transition process where the securitizations that are now occurring within Fannie and Freddie will have to be transitioned over time into the private sector.

We believe that that can be accomplished through a structure that would involve some government guarantee of the MBS. We think that there's no need whatsoever to set up new duplicate replacements to Fannie and Freddie. We think, quite frankly, that the regulators, the Fed and others could make a determination that any number of the current financial institutions in America are of sufficient counterparty quality to engage in those activities and that they could then issue these government guaranteed MBS. We think that offers an interesting and compelling hybrid response to this problem in a way that brings private capital into the market.

We think it would be important that that government guarantee be phased out over time, and I think market forces would probably be the key determinant for purposes of determining what the timing of that would be.

Secondly, minimizing the systemic risk as it relates to promoting transparency. We can't emphasize enough how much, in our judgment, the failure in the subprime crisis was largely a function of the inability of security investors to understand the nature, the quality and the character of the loans that collateralized those securities. That is no small undertaking, frankly, putting that sort of system in place. We actually are of the view that no such system exists today. But that could be one of the tremendous opportunities that the GSEs present.

One of the things that the GSEs really did do quite well over the last 15 years is that they did implement some of the most wide-ranging technologies that exist in terms of underwriting systems and delivery systems.

First, with respect to the future state of Fannie and Freddie, our view is generally that these are failed institutions, and any further time spent on figuring out how to turn them into

properly functioning institutions is probably time, money and energy not well spent. Our view is that we should make a judgment as to what the best features, functions and capabilities of those firms are: either privatize them, or have the government take them over. In time, those organizations should be rationally wound down and resolved.

Lastly, with respect and most importantly as it relates to the affordable housing goals, there are many that debate very passionately whether that is a role that should be promoted by the government and should be part of some quasi-new entity or some quasi-governmental, new entity that might replace Fannie and Freddie. Our view on that is that there are already instrumentalities in government in the form of FHA and Ginnie Mae that, in our judgment, should be tasked and held to promote and manage those very valid public policy objectives.

Some will say: "Well FHA and Ginnie Mae are themselves broken," or "They have issues or limitations." And our answer to that is that's not the reason to set up. That's not an excuse for setting up another governmental institution.

The answer to any deficiencies that may exist in FHA and Ginnie Mae is give them the funding, give them the personnel that are necessary to do the business that they've been charged to do by Congress, and do it effectively. And I'm looking forward to some lively debate on this. Thank you.

PROFESSOR WILLIS: Thank you. Okay, Jason.

MR. JASON H.P. KRAVITT: By the way, I am the last speaker on the last panel today. So when Mark said "last but not least," he was kidding.

I want to thank you all for being here and being awake, and now I'm going to wake those up who aren't. I also promised everybody that I wouldn't be critical of what they said today, but I can't resist, I guess because I'm a lawyer.

The first thing - this is off-script, by the way, Mark. The first thing I wanted to say is that, in my opinion - and you know I am deeply enmeshed in all the securitizations that have occurred - the secret to figuring out what went wrong is not a question of statistical analysis. Rather, it's a question of psychological analysis.

If you look at the entire supply chain - from the person who wanted to buy a house, to the broker, to the mortgage originator, to the securitizer, to the underwriter, to the inves-

tor - everybody had an interest in doing the right thing, and almost nobody did it. I don't care what you argue about whether they had enough skin in the game, et cetera. Everybody had enough skin in the game because they've all gone bankrupt, or lost their jobs or had their business reduced. Nobody didn't have skin in the game.

What happened is that people acted in their selfish interest instead of their self interest because their compensation, the compensation system that paid them, was divorced from the self interest of the entity for which they worked. People didn't have the interest of their institution in mind because they were paid predominantly on huge volume that was produced now, as opposed to the quality of what they produced as examined over time. That's the first thing I would say.

The second thing to say is that the system was not "non-transparent." I don't believe that. If you look at the three biggest losses, the huge losses and the losses that had to be made up in the bailout - which were made up in the bailout and repaid, everybody should remember that - it was the entities that underwrote the most CDOs of MBS. Those banks had huge write-offs each, and it was the mortgages that they pooled and securitized that they were investing in. You cannot tell me they didn't know what they had. What happened is their institutions had a failure of risk management and, again, I believe that goes back to the compensation system.

And by the way, Professor Wachter, where people started to make more money was, no matter how low interest rates got, when you pooled the mortgages and securitized them, because you could issue such huge AAA tranches, you always produce excess interest which went into the mezzanine tranches, and people made fortunes then pooling the mezzanine tranches and securitizing them with CDOs.

PROCESSOR WACHTER: Quite aware of your concern.

MR. KRAVITT: Okay, now to go on script. I'm going to talk about Australia because it's a fascinating example. Rodgin Cohen mentioned Australia and Canada as being the most concentrated but the most well performing.

Let's look at Australia. Twenty million people, it's a much more diverse population than it was, say, at the end of World War II but clearly not as diverse as the United States. No recession. They did not have two quarters of a shrinking economy

in a row largely because the economy of Australia is based on digging holes in the ground and selling what you get to the Chinese and Indians and, as you know, that's a very good business now.

Their system works as follows. No deductibility in income taxes for mortgage interest, but you have to pay taxes on the interest you earned in your investment portfolio. As a result, there's a huge incentive to prepay your mortgage, to pay it down and, in fact, the way their 30-year mortgages work is that at the end of 10 years, you can reset the mortgage. So people pay it down as much as they can and they redo their mortgage after 10 years.

There is no government guarantee, implicit or explicit. The loans, unlike the United States, are floating rate loans and they're not even based on an index. They're more like the prime rate. That is, the banks can change the interest rate.

The down payments are mostly more than 20%. The pools that we securitize, they averaged well over 30% and there's full recourse to the creditors.

Most mortgages - well, all mortgages in order to be securitized - had to qualify for private mortgage insurance. That is, each borrower had to qualify for private mortgage insurance. There's no back stop behind that.

And now here's the punch line for this. How many people here think that Australia has home ownership therefore, with those tough rules, of under 50% of the families? How many think over 50%? How many think over 60%? How many think over 70%? All right. The three people who just raised their hand are correct.

Home ownership in Australia, with all of these requirements that Americans are frightened of as being sacred cows and driving down home ownership, is higher than it ever has been in the United States, even at the top of the subprime bubble, and we're a couple percent off that now.

Now during the credit crisis throughout the world, the liquidity of their markets did suffer. The government did intervene in the liquidity markets and the non-banks who used to originate mortgages for the most part shrunk or went out of business but there was no credit crisis in the sense that people didn't stop paying their mortgages. Rather, some institutions

couldn't finance their mortgages so the market is very concentrated in the four big banks which is a GSE question here.

Now I'd like to point out, if you compare Australia to the United States, there's a much more rational allocation of financial resources, because we don't have a subsidy in many different ways. In Australia, you invest more in productive resources and you become more competitive internationally. I would argue that's a good idea for the United States.

I think what makes their mortgages so safe are the down payments. Substantial down payments and recourse in part means that people don't stretch for the house they can't afford because you lose your life savings, and you're ruined if you stretch for the house you can't afford. If you do that in the United States, you can walk away from it now. I think having to qualify for private mortgage insurance makes a big difference.

But in the end, all of that is debatable and I think culture, as my fellow panelists have indicated, makes a big difference.

All right. Mark asked me to talk about recent regulation. It would fall into three categories: retention, access to the markets, and capital.

Looking at retention, the idea in Dodd-Frank is that you require anybody who securitizes a pool of loans to keep part of it. There is, to my knowledge, no academic proof that that makes mortgages safer. However, some people believe in that passionately, and that's what's become the law.

PROFESSOR WILLIS: Since you mentioned before, about structuring in the mezzanine, and the way that money, even risk retention. . .

MR. KRAVITT: Yes, there it made no difference.

PROFESSOR WILLIS: Right. The way these are structured, right.

MR. KRAVITT: Right. I always point that out. You're the first person who ever listened to me, including my wife. [laughter]

What retention does though is make it much more expensive to originate mortgages, and it makes it much more difficult to take them off your balance sheet because of new accounting rules that have been passed. So that's going to reduce the amount of origination of mortgages. I'm just telling you that right now.

The exception in the rule is for qualifying residential mortgage loans. That will become the new most important definition in the United States, more so than conforming mortgage because you won't have to keep 5% of the pool if you originate mortgages that are qualified that way. So the more conservative that's written, the more restricted mortgage finance is going to be in the United States.

Some people think a possible solution is covered bonds, but I'd like to point out that a covered bond is really just a loan secured by mortgages. There's full recourse to the bank that issues the covered bonds, therefore you have to keep full capital against the obligation so it doesn't increase the supply of mortgage financing. That's a big drawback because securitization can reduce capital.

Let's go to access to the market. I think I agree with most of the panelists here who feel that disclosure should be better. I agree that it should be better. Dodd-Frank and the proposed SEC amendments to Regulation AB, which controls offerings in this market, provide for a specific loan level disclosure which I think will make the market much better and much more transparent. But the problem now is that we don't have a solution to originating mortgages that breach reps and warranties. It's supposed to be done item by item now. It's way too expensive. It's very hard to get a remedy, and one reason that the system is broken now is we really don't have a solution for a breach of warranty and the remedies involved, and we really don't have rational servicing fees. As also has been said here, we need to reform the servicing fee model. We need to reform the role of the trustee. We need to pay trustees more and give them more duties.

However, the worst part of the SEC proposal is that we've proposed that public requirements for disclosure would have to apply to private transactions that qualified for the SEC's safe harbors. That will just serve to drive finance more and more offshore in the United States and, again, further reduce available mortgage financing. We'll have to see if the election changes the proposal.

Last, access to capital. Dodd-Frank provides that capital can no longer be based on ratings, and right now the regulators are struggling to come up with a new system that allocates capital to banks other than based on the equivalent of ratings.

That's very tough. We'll have to see if that comes out good or bad.

Basel III increases the motivation of banks to securitize because it requires them to have much more capital to back up their assets. That's what the previous panel talked about. So again, that's going to shrink the mortgage market.

One thing I'd like to say is that there is no such thing as the shadow banking market because there is nothing that's not regulated now, if that's your definition of the shadow banking market.

I'm going to end with a story. This is what we're involved in now.

Supposedly Albert Einstein once went to England, caught a train and went out into the countryside. The conductor came up to him and he asked him for his ticket. He checked his hat band inside and out, all of his vest pockets, his jacket, his wallet, he just couldn't find it. The conductor, of course, recognized Albert Einstein and he said, "Dr. Einstein, I know who you are. If you just tell me you have a ticket, I'll just go onto the next passenger and take your word for it." So Dr. Einstein blinked and looked at him blankly for a couple seconds and said, "You don't understand young man. If I don't find the ticket I won't know where I'm going."

What we're trying to do is find the ticket and I don't think so far we have found it.

PROFESSOR WILLIS: Okay, terrific. Thank you.

So we're going to open up to questions in a minute. So please be ready.

I do want to pick up on one point here, if I may, to spread the conversation across the whole panel here. I thought that, in Viral's presentation, one thing was particularly provocative in terms of what some of the other comments have been, and that is that government is silent. So Viral, do you want to say a little bit more about what you mean by them being silent? Does that mean no regulation, no intervention of any sort or before I get comments from other people on that?

PROFESSOR ACHARYA: Yes, what we meant by government being a silent partner was that there isn't a government agency that's actually deciding which mortgages will get guaranteed. That would be left to the private sector in our hybrid solution. But clearly, as I said, if you don't regulate the private sector's

systemic risk well, then of course, the pricing of guarantees goes for a toss.

So the government is not silent in containing the systemic risk of the private sector, but it is silent in feeding the origination of the underlying mortgages in the first place.

I should have stressed that one reason why we are not in support of a government agency deciding what mortgages to securitize is that our primary concern is size; which is that, what was given to Fannie and Freddie was a license to potentially write an unbounded quantity of mortgages. Because the off-balance sheet guarantees that the government was effectively providing were never under the debt ceiling of the government, the possibility of repeat of such an outcome really, really bothers us.

PROFESSOR WILLIS: Other panelists want to comment on that?

MR. O'REILLY: Well, I'll just step in and say I agree with that, that having these as off-balance sheet obligations absolutely makes no sense. If you actually go back to the history of how Fannie and Freddie have been accounted for in the past, as you correctly pointed out, I guess it was prior to about 1968 that those were viewed as Fannie's obligations. The government's obligations to Fannie around the guarantee were viewed as on-balance-sheet obligations, and there is some debate within government as to whether that should be transformed. I'd say that we would agree with you that where there's a government guarantee in place that those should be very, very explicit and calculated as part of the overall debt obligation of the government.

MR. KRAVITT: If I could add something, I agree completely. Keep in mind though the numbers, the size does matter here, of the $5.3 trillion outstanding, MBS, Fannie, Freddie and Ginnie mortgages. Remember those are assets as well as liabilities.

PROFESSOR WILLIS: That's exactly right.

MR. KRAVITT: It certainly wouldn't be putting trillions on a balance sheet. You'd have to put on whatever some sort of expected loss number to preserve.

PROFESSOR WILLIS: Right.

MR. KRAVITT: It would be a couple hundred billion. It wouldn't be small.

PROFESSOR WILLIS: And the CBO has come out with estimates of what. . .

PROFESSOR WACHTER: The CBO has done that.

PROFESSOR WILLIS: Susan, do you want to comment on the role of government here in terms of this notion of what regulation - and I'm not sure I even understand the line between regulating what the issuers or the originators of mortgages - as to what mortgages they can originate and this direct intervention. I guess that you don't want an entity deciding on the price of the mortgage insurance?

PROFESSOR WACHTER: What I hear Viral say, and I absolutely agree, is that we don't want untrammeled increases in leverage, but of course that happens on the private side as well. So it would be good to be able to rely on regulators to control this. I do not think that we can rely on their being able to do this without increased information flows. We certainly have had regulator cooptation before and that is an issue. So I think we need to rely on markets to in fact discipline when leverage gets out of hand and risk increases. But in order to do this as well, we need to have more information and we have to have disclosure as to not only the amount of leverage that's in the system, but also we have to have disclosure about the quality of the leverage. That is the terms of the loans that are being made.

And how do we do that? I think regulation by the SEC is a start, but just as we heard just a moment ago from the panelist, how do you guarantee that in fact the data are accurate? Where is the recourse? If right now it is difficult to get reps and warranties to be in fact remedies for those that have been breached, how are we going to do this going forward?

I think these are the questions that are yet unanswered. I think we are, in fact, without a remedy and in order to get that remedy we need transparency, and we need to actually have disclosure enforced.

PROFESSOR WILLIS: Okay. Any other panelists? Brian?

MR. O'REILLY: Well, I would agree with that and, Jason, I think I would scratch my head and say I have a hard time, with all due respect, understanding how it can be said that there was transparency in the securitization market. I mean I don't want to get too deep in the weeds here, but the reality is that the ratings agencies were rendering their ratings of these se-

curities with the most minimal understanding of the loans that collateralize those securities. In fact, it was a fraction of the data elements that are required as a practical matter to underwrite the loans.

So I find it difficult to understand how it can be claimed that with so little information, the ratings agencies understood what it was that they were rating and, in the absence of that knowledge, I don't know how we can claim that there was meaningful transparency.

My concern with respect to the model as it existed during the subprime era is that securitization was confused with what I would describe as old fashioned underwriting, and I think that was really one of the primary fallacies and failures of the subprime system. We thought we could slice and dice these securities in a way that would effectively eliminate risk and I think the experiences of the last two years have proven that that was not possible. So I'd just be interested in understanding your perspective on that.

MR. KRAVITT: Well, I think that people had access to what they needed to have access to. You know, part of my proof would be that there were a lot of smart people who knew what was happening who didn't originate the loans.

I think we blame the rating agencies too much. I think if people needed access to information, they could know what was going on. I think people didn't want to ask the questions. I think CEOs did not know what was really in their portfolios. I just think there were parts of knowledge in institutions, but there was a failure of risk management within institutions to be able to take advantage of the pockets of knowledge that existed.

PROFESSOR WACHTER: Can I push though for why was there failure of risk management? Why did risk management fail?

MR. KRAVITT: Well, I think I would quote the movie - a movie I saw once where a woman died of a broken heart and when the mother asked the doctor what caused it, he said, "Madam, I'd have to be a philosopher not a doctor to answer that question."

There are lots of reasons, but I would go back to psychology which I don't think a lot of people wanted to know. A lot goes to style. I think that Jamie Dimon knew what was in his

portfolio, and I think that not every manager burrowed down that deeply or asked the right questions because they were focused on other parts of the income statement like the gross income part of the income statement.

PROFESSOR WILLIS: I am going to disagree. I have to disclose I did work at J.P. Morgan Chase.

MR. KRAVITT: You mean he didn't know what was in his. . .

PROFESSOR WILLIS: Why did he - why did Chase build up such a high portfolio of second liens if the first liens were so risky? I think what Jamie Dimon understood, and what is fundamental to banking and is one of the keys to success, is that he had this term called fortress balance sheet. He knew not to have too much risk in anything, and maybe I'm reading into that knowing that you can't know all the risks in any of it. So let's make sure we don't put our bets too heavily on any particular part. But it is striking to me how much they ended up with those second liens.

So Greg you want a chance to respond. I'm sorry.

MR. KRAVITT: No, I think you have a good point on the second liens. I think we don't know how big a problem second liens are going to be now. That is a very serious problem.

PROFESSOR WILLIS: But they own a lot. They do. Greg?

MR. REITER: I just want to add that there are elements in everything I'm hearing here but what I've seen both as being involved as an underwriter, a researcher and at times on the buy side, there was lots of information, but the investor could choose to ignore it.

For example, when you're looking at these mezzanine-backed - these subprime-backed CDOs. On the 25th of every month you could get these reports, and the information is available to everybody to see what was in your bond. You could if you wanted to see. Eighty percent of them had no documentation in the unit pool, for example, so called liars' loans and with no proof of income or you could just say, "Okay, I'm going to go with the rating. I'll buy this AA or this AAA tranche."

So in a sense, there were a lot different things that were to blame as Mr. O'Reilly said. Everybody was sort of at fault also. But actually there is a lot of information and just a lot of investors from just that one perspective you might say could choose to ignore or look at the information or just look at the ratings, or hope that home prices would keep going up forever.

PROFESSOR WACHTER: We could just hope that housing prices would go up forever, or we could attempt to analyze whether home prices were departing from the fundamentals and if so, what was driving them as a lesson for necessary analysis going forward. A co-author and I have put forth this idea in response to the Asian financial crisis as a test for whether in fact a bubble emerged through excess credit: which is to look at the correlation of the decrease in the risk premium with the all-else-equal increase in housing prices.

And if you did that in the U.S., you would in fact have seen that the price increases that were emerging in 2004, 2005, and 2006 were in fact correlated spatially across the country with compression of risk premia. Where subprime expanded that's where house prices increased.

Andrey Pavlov and I have a paper that has just come out in *Real Estate Economics*, "Subprime Lending and Real Estate Prices," which looks at the data using instrumental variables. But the bottom line is you really couldn't do that in the U.S. real time, the data were not available. That's why the Fed did not know in 2005 to what degree this was a credit bubble.

PROFESSOR WILLIS: All right. So we have a couple quick comments here, and then we have some Q&A.

PROFESSOR ACHARYA: Yes, I just wanted to add one thing. In our NYU Stern view of the crisis, the main question we have tried to answer is why were the sophisticated institutions holding the AAA mortgage backed-securities. This is a good question to ask because the whole theory of securitization was that you buy mortgages, you slice and dice them, and you were supposed to sell them to the Norwegian Village Pension Fund. You know, they weren't supposed to be sitting on balance sheets of J.P. Morgan and Goldman Sachs because they are funded with short-term liabilities, making it very costly for them to do long term-maturity mismatch when adverse shocks materialize. They were supposed to pass these securities onto others that had much longer-term liabilities.

What doesn't get as much attention is the fact that there was a very strong regulatory incentive to create AAA mortgage backed securities: under Basel II, these mortgages had 20% risk weight compared to an equivalent risk loan. So, for example, if you held a AAA CLO, you were getting five times the

leverage compared to holding AAA mortgage backed securities.

And we think the situation this created was one where the entire banking sector was on one side relative to regulation, and even rating agencies then were on the same side. So I completely agree. We believe there is an overstressing of the role of rating agencies, because people who were buying these tranches were fairly sophisticated players.

If you look at Goldman's ABACUS deal, what surprised me was that ABN Amro and IKB were buying the stuff even after the crisis had already hit.

I am also with Susan which is that the problem with house prices is that you cannot short housing. So when the house price is very high, there's a set of players who may be very bearish on the market but they can't really go out there and express a view that easily. Now they can because we have some sophisticated derivatives to do that.

But absent these derivatives, the only way you can understand whether the price is exaggerated or not is by trying to figure out if there a big supply shift of credit that's happening into the market, and here there was a reason which was that you could reduce your capital through securitization rather than actually using securitization to distribute risks to the rest of the capital markets.

PROFESSOR WACHTER: And I agree with that, but I don't agree with you on the derivatives. They're still not there. The Case-Shiller is very limited.

PROFESSOR ACHARYA: Yes, I agree it's very limited.

PROFESSOR WILLIS: Okay. Let's take some questions from the audience.

AUDIENCE MEMBER: A recent decision by a Massachusetts court voided foreclosure of a securitized mortgage because the assignment wasn't properly recorded, or there was a defect in the title or something. I was wondering how this ruling will impact the valuation of the existing CDOs in the broader market and the implications for the $5 trillion in Freddie and Fannie guarantees. And also, my main question is if a bank refinances a securitized mortgage on its books, would that cure the defect in the assignment?

PROFESSOR WILLIS: Greg?

MR. REITER: I could try to take the first half. First of all, the ruling is actually not very significant. It was regarding two different servicers - actually its trustees because once the loan goes to foreclosure, the servicer hands it over to the trustee. The trustees were just ill-equipped in these two cases to prove that they actually had the right to foreclosure.

In one case - in one of them, the trustee actually brought a prospectus and said, "Well the loans are in here," but had no identifying information of borrowers and so in fact for privacy reasons it can't.

And in another case they just had nothing. So in that particular case although it may have gotten a lot of press, it actually is not significant in and of itself. However, more broadly, it definitely reveals that there's a lot of problems with documentation and the way servicing and trustees are behaving. So you know it means that there will be some issues and friction going on as servicers are kind of forced to do a better job.

PROFESSOR WILLIS: I'm not the right person to provide legal analysis, and I don't know if Jason wants to comment, but if you read the court decision, or at least the excerpts I have, the judge just said, "Show me any evidence, any evidence, that you own the mortgage," and in these cases they just couldn't. So hopefully these are really oddball cases here and it is just restricted to Massachusetts. There are issues about the quality here but the extremity of this case, of this example I think a lot of people feel is not going to go create all the problems that the initial flurry you heard was.

So let's get another question.

AUDIENCE MEMBER: From what I have heard from reading industry people is that they can alter the formula and variables in large scenario-based algorithms so that they are prepared for more unexpected occurrences. I tried to do a paper on subprime mortgages in 2009 and get help from Korean bankers and they were totally unhelpful. So I came up with these scenarios for foreclosures. They are bankruptcy, unemployment, absenteeism or illegal activities, and finally failure to maintain property.

So during the research it was very difficult for me to find charts dating back to 2002 in terms of home ownership, breaking down minority home ownership, sub breakdown with

ethnicity and geographic location. Could you give me any guidance on that?

PROFESSOR ACHARYA: I don't know if I understood the question fully but at least there is some research which suggests that one primary driver of when - in terms of when jingle mail happens which is the homeowner just returns the house keys to the bankers - is whether you have enough home equity or not. If the value of your house is low compared to the value of your mortgage, you don't want to continue to make payments.

PROFESSOR WILLIS: No, let me add that the most recent research, I think, is that if you get into trouble, you lose your job, some other life event, divorce, whatever, and you fall behind and you're underwater, it's almost guaranteed you'll go all the way. It is an open question as to how far people have to be underwater to do what's called the strategic default.

MR. REITER: Twenty to 25%.

PROFESSOR WILLIS: Well. . .

PROFESSOR WACHTER: Twenty-five percent of borrowers who are underwater are strategically in default. That's the number out there.

PROFESSOR WILLIS: Okay. Right. So if somebody's underwater by 10%, that is their mortgage is 10% more than the value of their home, we're not seeing unless some other event happens. They have to be much further underwater before being underwater in and of itself triggers that.

AUDIENCE MEMBER: First of all, a quick question for Mr. O'Reilly. You said that you favor a phasing out of the government guaranteed GSEs. But why not a clean break, because just sort of historically trying to phase out government seems to invite excuses down the road as to why they should be kept in. The nature of government involvement seems to be that it goes only in one direction.

And my other quick question is regarding the actual role and the exact day-to-day activities of Fannie and Freddie going back to '93, let's say, when there's clear evidence that they were misrepresenting both to other government agencies, to the public and in general both the nature of the loans, the nature of their losses and just in general it seems to have involved a lot of fraudulent, if not criminal, activity. Why hasn't there been either a special Federal prosecutor or any sort of

wide ranging investigation into their activities going back to the early nineties?

PROFESSOR WILLIS: Brian, you can answer either part of that and then Greg wants to join in as well.

MR. O'REILLY: Sure. Well you know, full disclosure, I worked at Fannie Mae. I'm not equipped to answer the question with respect to the investigations. That's probably a question best put to the Justice Department.

I would actually say that in my experience, those are two of the most heavily scrutinized organizations that have been regulated by the Federal government as evidenced by the fact that it was their regulator that identified and called them out in connection with their accounting irregularities. So I think it's probably not completely accurate to say that they haven't been scrutinized, but whatever decisions were made were the decisions of the prosecutorial authorities.

As it relates to why it wouldn't be an immediate cut over from Fannie and Freddie, which today are securitizing, certainly in excess of 50% of the mortgages in the marketplace, is I just don't see the private sector support for it. In other words, I don't think that you can just go overnight and sustain the required liquidity that is necessary to maintain a vibrant and vital housing market. I think it would need to be phased in over a reasonable period of time.

PROFESSOR WILLIS: Brian, do you think the market, once the government's out of it, would be offering a 30 year fixed rate product that's affordable or that is well priced or whatever language that you like?

MR. O'REILLY: I think the answer to that is yes. In part it goes to the point about some of the cultural biases in the United States. Culturally we've become very accustomed as homeowners to having access to a 30-year fixed rate mortgage. I think that at the end of the day the market and the demand for that would create economic opportunities for financial institutions to make those loans and ultimately securitize them.

So I think the answer is yes. I mean I know that there are some that say that the GSEs either in their current form or some alternative future form need to exist because in the absence of them you risk the TBA market, and I'm not convinced that that would necessarily be an outcome.

PROFESSOR WILLIS: The argument here is obviously that there are externalities, as we've learned. When a house is foreclosed on, it affects the neighborhood, it affects the people, it affects the children, education and all of these things. And so that you might wonder whether there is a market imperfection so to speak if all the risk of interest changes is placed on the borrower as opposed to now on the originator and investor, who may be more sophisticated and able to deal with that interest rate risk. And so the question is, if it goes away for most people in the country, the 30-year fixed option, does that matter to us as a society. And I'm not asking you to answer it but that's the question we need to deal with. Greg, did you want to?

MR. REITER: No, I'm fine.

PROFESSOR WILLIS: Okay.

PROFESSOR ACHARYA: I just want to add one thing on this. The GSEs have, it turns out, done a decent job in managing the interest rate risk of their portfolio. In fact, if you go back historically, those who were complaining about GSEs were not so much worried about the quality of the underlying mortgages. They were mainly concerned with an interest rate shock that could bring them down possibly, but the GSEs have in fact spread the interest rate risk through the interest rate derivatives market reasonably well. Our view is that even the private sector could potentially do that. You know, the interest rate derivatives market is a fairly deep market, a fairly global market.

So I'm not so sure that if we switch to the private sector providing most of the guarantees or if it is deciding on what to provide guarantees against, that the fixed rate product would necessarily get eliminated. But I think it is an interesting question to ask.

AUDIENCE MEMBER: I had a question about the international experience. In terms of the Australian and Danish cases, how much change has there been in the price of housing stock in those countries over the past 10 years? Have you seen the same sort of increases you see in the United States, or has it been relatively stable considering you have high ownership and more risk of trying to make an investment bet on property?

PROFESSOR WACHTER: I can address that.

Housing prices went up over much of the world but they went up more in the United States. They went up in Canada. They went up in Australia. The difference is that, of course, housing prices leveled off in Canada and also in Australia. They did not decline.

The case of Denmark is interesting because Denmark actually had a bubble and it burst after 2007, which was consistent with the period where they went from their fixed rate mortgage system to a product which you could increase effective housing demand an interest-only product.

AUDIENCE MEMBER: I happen to think that Freddie and Fannie Mae are inherently sound and serve a valuable public purpose. It seems to me that the legislation has either been compromised or perhaps even sabotaged because, for example, I think the federal limit for Fannie Mae is $750,000 or something. That's pretty high for New York City. In South Dakota, it's probably 99% of the mortgages there, and so it seems to me that number one the mortgage rates need to be set at some sort of mathematical percentage of the size of the mortgages in that state as opposed to just a flat amount that applies to every state where it's high in New York, certainly it's going to be most of the mortgages in other states.

PROFESSOR WILLIS: Right.

AUDIENCE MEMBER: And secondly, the risk doesn't seem to me to be balanced properly because the banks earn the profits, they pass most of the risk to Fannie and Freddie, and then whatever's left over they pass it on to investors. There's really no significant risk on the part of the banks. And I think that we wouldn't have the problem with the robo-signers that we've had if, for example, J.P. Morgan Chase was assessed a significant penalty if their foreclosures went above a certain percentage. Maybe that's the way we need to do it. If you have foreclosures over a certain amount, you pay a specific, sizeable penalty. That'll make them look more closely at the mortgages at the origination level, but also they wouldn't have robo-signers and all the problems that we see happening with respect to these foreclosures that really shouldn't be happening.

MR. KRAVITT: Well, would you be prepared to have the amount of credit in the United States go down 20%?

AUDIENCE MEMBER: But why is that necessary?

MR. KRAVITT: If you're going to impose a penalty on a bank when they've made a bad loan, they're going to make a lot fewer loans and only to people of higher credit quality. They're not going to make loans to people of lower credit quality or as many.

PROFESSOR WILLIS: So let me give a point of information here. Higher cost states go up to seven hundred and some odd thousand. Other states like the one you picked, one of the Dakotas, is probably at the old level of 417 still there.

The issue of principal-agent risk is exactly what people are worried about and trying to improve through better information so that everybody can understand what the risk is and what they're buying and decide what the right price is to pay on it. You're absolutely right. It's a huge issue because you need to make sure that in the originate-to-distribute model we have that the originator knows about, understands the risk and doesn't just sell it off.

And for those who know something about the private label security market - this was the non-agency paper that was out there - there were all these AAA tranches. There's a huge advantage to it but there was a B tranche, and often it was the investment bank like Lehman who ended up holding the bag. So there was plenty of risk that people had.

There's one thing I feel the need to repeat here. We were in a bubble, right? Psychology I think is important to understand. Everybody thought that prices are just going to go up and so in the end, there's no -

PROFESSOR WACHTER: Not everybody Mark.

PROFESSOR WILLIS: No, I'm sorry. I exaggerate.

PROFESSOR WACHTER: Some people made a lot of money in assuming they were going to go down.

PROFESSOR WILLIS: I have a view on that too but that's okay. Go ahead sir.

AUDIENCE MEMBER: I have a question about - it's kind of a two-edged sword question. On the one hand, is the mortgage based securitization system inherently a flawed model, flawed because of the paperwork problem? It is not true that the Massachusetts case is an isolated incident? In Florida and many other places the essential paperwork for these mortgages is nowhere to be found. The banks have not done a good job of keeping the paperwork trail, number one.

Number two, they have not done a good job of matching the penalties, the interest rates, the fees in the contract with what they actually charged people. So the playing out of how the mortgage contract was effectuated is extremely flawed because of separating the servicing from the ownership, and separating it, making it nation-wide rather than local.

Land ownership and property ownership is locally based. You've got to register it locally. They invented a whole new system with MERS to nationalize it to make it more efficient, to make it cheaper. But with that came a lot of errors, a very high rate of error that we're beginning to see, and I think there's a real question about this if this is fundamentally flawed.

But I want to turn that around. The other edge of the sword is. . .

PROFESSOR WILLIS: Please, your question.

AUDIENCE MEMBER: If we were to ask you now to invent an internet-based e-filing federal system of land registration, mortgage registration, keeping track of mortgages, foreclosures and all the rest, could we do it better that way in terms of an entirely new federal system that worked from a national level because you're homogenizing the U.S. real estate market?

PROFESSOR WILLIS: I can't see Brian's face but I assume he'd like to answer that question.

MR. O'REILLY: Sure. Well, I would disagree in part that the deficiencies, the gaps and the failures that are obvious and quite apparent in Florida and other places are really properly an indictment of securitization. I think they're separate issues.

Personally I'm a defender of the MERS system. It's an excellent system if it's utilized properly, and I think the failures that you've identified are really failures of business processes and discipline within certain key financial institutions and within servicers.

At the end of the day, unfortunately, this is still a paper based system to a large extent and it requires lots of manual labor and intervention for people to be updating the records to ensure that chain of custody issues and such can be satisfied for purposes of the courts when it comes time to foreclose on a property.

So really in our judgment the answer to the problem is not a new system, federally based or state based. Whatever sys-

tem is in place needs to be utilized properly by the lenders who are obligated to utilize those systems.

Quite frankly, if you study the issue of MERS as it relates to the private label securities, you frankly had a wholesale failure on the part of many of the investors frankly just to update the MERS system as they were required to do. Now, again, MERS is certainly not completely innocent in this process, but I would tell you that again no system in the world is going to address the issues and concerns that you identify if it's not used well by the people in the organizations in which they're tasked to utilize it.

AUDIENCE MEMBER: To what extent do you think that the affordable housing requirements imposed by Congress contributed to the crisis, did the GSEs get into subprime lending because of these requirements, and to what extent can subprime loans be equated with affordable housing loans?

MR. O'REILLY: So that's the great question, right? Because all the heated debate will result, and because how you answer that in some respects defines how, at the end of the day, you want the government to be implementing these public policy goals and objectives. And there are people on both sides of the equation. There's no way to avoid concluding that the housing goals contributed at least in part to the GSEs' purchase of private label MBS.

Now there are others, and I suspect others here, that will argue that greed, avarice and an interest in replenishing market share and protecting margins were their primary motive, but I suspect the correct answer is a bit of both. But I tend to believe that the housing goals contributed to their acquisition of that product.

PROFESSOR ACHARYA: When we started out writing our book "Guaranteed to Fail," we first thought that perhaps this was *the* fundamental distortion, the affordable homeownership goals. But in the end when you look at it, the data doesn't always fully line up with it. The affordable homeownership goals were there since the nineties. They were increased substantially around '98, '99, and the increase from then leading up to 2003 and 2007 was in fact much lower than what we saw in the nineties.

If you took the affordable housing goal story as *the* cause, you would have expected a pretty large subprime boom in the

nineties. But our view in the book, at least based on this factoid, is that it was the private label securitization market which drove sub-prime lending boom: the fact that the banks had reached certain maturity to do private label securitization of subprime mortgages.

Now at this point, the fact that Fannie and Freddie had these goals meant that they could also participate in the subprime boom. In particular, part of the lobbying that Fannie and Freddie did was that they went back to the Congress and for the first time they said, "Listen, we are losing our market share. We are not able to capture as many subprime mortgages as we would like to. Can we now go and buy AAA mortgage backed securities which have subprime mortgages in them?"

Now if all that had not happened, our conjecture is that we would have just been in the world of the nineties where these goals were set but never quite fulfilled. Or in other words, the growth in sub-prime lending would not have been as dramatic as we witnessed during 2003-07.

PROFESSOR WILLIS: So, let me take off my moderator hat since this is something I've done a fair amount of work on. Just to dismiss the CRA part, if you look at the amount of loans that were done by banks subject to CRA in areas that they had a CRA responsibility, you will find that only 6% of all of the subprime called higher priced loans in 2005, 2006 were in those geographies. So it's hard to argue in my mind. So you have a single data point I think that shows for CRA this just couldn't have been the driver of what happened.

And people have looked at where banks have a CRA responsibility and found it in those geographies actually fewer subprime loans were done.

So the affordable housing goal is much tougher. There's been a lot of analysis here asking the question that you did. It looks like the goals weren't pushing them very far beyond the market. If you had really said you've got to double what the market's doing out there in terms of Fannie, that your share has got to be double what the overall market share, you might have found it easy to argue that something was happening here. But their share wasn't disproportionate to what was required on the affordable housing goals. I don't support a hard goal, but I don't think it showed that.

There have been some discontinuity studies comparing subject to the goal - not just whether there were more mortgages available - and there doesn't seem to be any evidence that it changed the penetration here.

And I will say with regard to the AAA securities, again, somebody had to own the B piece. So if Fannie and Freddie didn't buy the AAA, somebody else probably would. They had very favorable capital requirements in terms of banks or other financial institutions buying them. So even there it's not clear to me that the affordable housing goals led to what we ultimately found happened here.

And I'm very glad to hear that you've come to that basically that conclusion.

PROFESSOR ACHARYA: Yes, I would add one thing though. It still suggests that the Fannie and Freddie model of pursuing affordable housing goals is risky in the sense that it is better to do want the government does want to support in the way that Ginnie Mae or FHA does, which basically says, "This is the amount of budget you have. The debt is explicitly recognized on our balance sheet. This is the amount of quantity with which we are comfortable. Now go and do it."

I still think that in the counter factual you could imagine Fannie and Freddie fully fueling a subprime bubble because they could have funded it at the government's cost of borrowing in the market. Now why they did not do so, that's an open question. It is possible to start with their systems were designed for good documentation, prime-quality mortgages. Perhaps over time, they would have expanded their systems to cover sub-prime mortgages. We will never know!

PROFESSOR WILLIS: Right. Even the Alt-A business they were in was not necessarily "goals rich," as the term goes. So you know, I do think that they lost market share. They needed to build their profit. They wanted to show growth year over year. The way to do it is put it in their portfolio where they had very limited capital requirements and very favorable cost of funds. So AAA tranches of subprime, that paid more than Treasuries did, was a very, very attractive investment for them.

MR. O'REILLY: And it was a good volume. They, Fannie and Freddie together, typically bought 50% of each deal. Pretty much anything that would fit under the conforming loan balance, they'd buy. Everything.

PROFESSOR WILLIS: So greed and avarice is my bottom line in terms of analysis. I have to wrap this up.

[Applause]