THE BROOKINGS INSTITUTION

THE HOUSING CRISIS AND LESSONS FOR MONETARY POLICY

Washington, D.C.

Monday, April 21, 2008

Introduction and Moderator:

LAEL BRAINARD
Vice President and Director, Global Economy and Development
The Brookings Institution

Featured Speakers:

SIMON JOHNSON
Economic Counselor and Director, Research Department
International Monetary Fund

ROBERTO CARDARELLI
Senior Economist
International Monetary Fund

DOUGLAS ELMENDORF
Senior Fellow
The Brookings Institution

* * * * *

P R O C E E D I N G S

MS. BRAINARD: Good morning. I think we have the PowerPoint working.

The recent turmoil in global financial markets, which many believe was driven by problems in the pricing of risk in the subprime market, has been the most, perhaps, obvious example of how innovations in housing finance over the last quarter century may have altered the role of the housing sector in the business cycle. Of course, then that raises some questions about whether and can and how policymakers should respond.

There is a lot of controversy surrounding these topics right now. It is, of course, of great relevance because policymakers here and internationally are grappling with precisely the set of issues that emanated out of these innovations in the subprime market. And so, the topic that we're going to discuss today is front and center on international policymakers.

Radar screens was much discussed during the Bank-Fund meetings and, of course, is being legislated as we speak here in Washington.

The presentation today from the Research Department of the IMF is going to put a few propositions on the table that I think are pretty clear and also somewhat contested -- so I think it will make for a very interesting conversation -- contested by some people, some lesser known people such as Ben Bernanke and Alan Greenspan among others. I think we have some good material for discussion.

Before we start, I just wanted to introduce all three panelists. Simon Johnson and Roberto Cardarelli are going to provide a presentation up front, and then Doug Elmendorf will provide a kind of reaction or a rebuttal as he chooses.

So, very briefly, Simon Johnson is Director of the Research Department and Economic Counselor at the IMF, and he is on leave from the Sloan School of Management at MIT where he is the Ronald Kurtz Professor of Entrepreneurship, which also happens to be an institution that I was once inhabited. It is a great place. He has done a lot of work on the financial and economic crises as well as on economic growth.

Roberto Cardarelli is a Senior Economist at the Fund in the Research Department and has contributed to a variety of WEOs, World Economic Outlooks, on such topics as global imbalances and financial systems and this year was the chief author, I think, of the housing chapter.

And, finally, Doug Elmendorf is now here at Brookings. He is a Senior Fellow in the Economic Studies Program and is also a co-editor of the Brookings Papers. Interestingly, he is the Edward Bernstein Scholar at Brookings. Edward Bernstein was the first Chief Economist at the IMF, Simon Johnson's position, and was also a Brookings scholar and later a benefactor. So Doug is actually not on the panel for that reason, but it's a nice coincidence.

Doug is an expert on the U.S. housing sector and has written quite a lot on financial innovation in the housing sector and how it has affected the U.S. business cycle and is also now much sought after for his recommendations on how to fix the mortgage mess. So he will respond from a U.S. perspective.

So, with that, Simon, I think is going to start off. We'll have the presentation of the paper first, and then we'll just have a panel discussion and open up to the audience.

Thank you.

MR. JOHNSON: Thanks very much and good morning, everyone.

I think that you don't need a lot of justification for talking about housing and the link between housing and mortgages and, of course, consumption and other parts of the real economy at the moment in the U.S. We, as I think probably everyone who is attending, see this as being absolutely central to the extent to which the U.S. is slowing down and the speed with which the U.S. economy can recover.

Our forecast, as you may know, is for a mild contraction in the U.S. this year, followed by a relatively slow recovery next year, and that's very much informed by some of the work which you are going to see today as well as our broader view of the U.S. economy.

We are also concerned that these issues are not limited to the United States. We think there is some direct spillover from housing and from demand in the U.S. through trade mechanisms. We also think there's spillover through finance.

We have our global growth projection declining. We think the growth in 2007 was 4.9. We expect it to be 3.7 percent this year. That's a pretty significant downturn. It does see slowing across the industrial world and does assume a considerable amount of divergence between the industrial world and emerging markets.

I would flag for you that one thing that is not really covered in this chapter, only because of the lack of data, is what has happened with housing in emerging markets. What the chapter tries to do is look across. Of course, these chapters are designed about six months in advance. So, six months ago, it seemed to us that it would be good to look across all the countries for which there's data which turns out to be, roughly speaking, OECD countries and think about a couple of things.

First of all, what's the link between housing and mortgage finance? We know that mortgage finance has changed a lot in the United States but also other places.

How has that relationship evolved? The chapter has some very interesting things to say about that. Some of them, I would say, are reassuring, particularly the fact that in some of continental Europe, it is reassuring for today's moment in the global conjuncture. Because they haven't developed the kind of household mortgage financing market that we see, for example, in the United States, we think that they're not going to have some of the same dynamics as we are now seeing in the U.S. So, Germany, for example, would fit in that category.

Some other parts of Europe, of course, has had similar developments, speaking of the Europe Union more broadly, and we'll touch on that also.

There's been a lot of debate about whether the transmission mechanism for monetary policy in today's context in the United States is going to be effective. Is there something that has changed either in household balance sheets or in the way that mortgages work that makes monetary policy less able to work against the cycle when things are slowing down? Again, I think a relatively reassuring message from our chapter is that there's very little reason to think the transmission mechanism has ceased to function as in the past, although I think you can imagine, you can see some shorter term reasons why it may not, which are outside the scope of the chapter, where it may not be playing out quite as in the past.

I would stress, though, and I think the chapter is very strong on this, that the link between monetary policy and house prices has, if anything, gotten stronger because of the recent innovations. That's something that we all sort of take onboard in thinking about monetary policy going forward.

That's, I think, also why we end up with the policy conclusion that I'm not sure I would describe it as contentious. I would say it's constructive and engaging. It's certainly engaging policymakers, and many of them were very engaged last weekend. That's true.

The idea that monetary policy should consider house prices much more symmetrically than it does now. I think when house prices come down, monetary policy does think about house prices quite a lot, and that's situation in some countries right now. We think there should be more symmetry -- so raising rates to limit the risk of a buildup in market imbalances as well as lowering rates in response to concerns about overly rapid price declines.

So it's a balance or a symmetry to that, which I will agree there is some tension around that, but sometimes tension just precedes the new consensus. Sometimes it's just tension. We'll see.

I think, with that, I'm going to turn it over to Roberto, and we look very much forward to your reactions and thoughts on the interaction between housing and monetary policy in the real economy around the world.

Thank you.

MR. CARDARELLI: Thanks a lot on my part too.

So this is Chapter 3 of the WEO, the Changing Housing Cycle and Its Implications for Monetary Policy. There's a lot of onus here. A lot of effort has gone into this chapter from several people as you can see.

But I would just go to the main objective. We try to answer three fundamental questions in this chapter. First, whether there's been a change in the link between the housing sector and the business cycle, the level of economic activity in advanced economies, only advanced economies, unfortunately -- we don't have enough data for the emerging markets over the past two decades -- and whether these changes over time and cross-country differences are related to different institutional characteristics of mortgage markets, different degrees of innovation in the systems of housing finance over this period.

Second, whether the changes in the system of housing finance and in this relationship between the housing sector and the business cycle have changed the role of housing in monetary policy and the monetary policy transmission mechanism, first. Also what are the normal implications? What can be the normal implications for monetary policy going forward?

This is a chart that belongs really to the motivations behind this chapter. You all know that the housing sector has been slowing down in this country but also in many other countries in the world. Real house prices, they have decelerated in growth terms. Only in a couple of countries, actually, growth has been negative: the U.S. and Ireland, actually, the United Kingdom over the last quarter of 2007. In other countries, there has been a huge deceleration from 30 percent like in Spain to zero percent growth in the end of 2007.

Residential investment, the picture is a little bit more mixed. There's a strong decline in the U.S. and in Ireland especially, three percentage points of GDP decline since its peak over the last five years. But in other countries, residential investment is holding up still.

Why should we be worried? There has been a paper by Leamer at the Jackson Hole conference in September, 2007, showing that residential investment is a very strong leading indicator for the U.S. There have been very few cases of recession of the U.S. over the last 30 years which have not been preceded by a very strong deceleration of residential investment over the 4 quarters preceding the recession.

We do exactly the same thing that Leamer did for the United States. We did it for all OECD countries. We find that for the United States, 25 percent of the weakness in GDP growth in the 4 quarters before the recession starts is actually coming from residential investment. Only consumption has contributed more to the weakening of residential investment.

Over the last four quarters, the residential investment has contributed 56 percent to the declining of GDP growth in the U.S. So, by that standard, we are very much in a recession environment in the United States.

What's more interesting is we don't find the same picture for the majority of the other countries. We see some evidence of the residential investment weakness is leading to the recession in some countries like Ireland, like the Netherlands, but not overall to the same extent as in the United States.

Why is this the case? We advance an explanation in the chapter as related to the degree of flexibility of the labor market in the U.S. and to the peculiar structure of the construction sector in the U.S., but there is certainly more work to be done here.

Another reason why we should be worried is, of course, the repercussions of house price declines on consumption. What the chapter does it is emphasizes the importance of houses for consumption because of the role of houses as collateral in the lending process, in the sort of borrowing process for households, more than the pure wealth effect from housing.

The reason is that this pure wealth effect from house prices needs to take into account the distributional consequences. Some are certainly negatively affected by house price growth. Some are actually positively effected: the renters, the ones who want to buy housing. So the effects there are probably more mixed, but certainly the decline in house prices restricts the amount of borrowing that households can take out of the housing.

In order to capture these things, what we do is we estimate the level of development of mortgage markets through this index. For these countries, what we do is we construct an index of mortgage market developments. We take into account -- this is a sort of animated chart that we're experimenting with in the Fund in order to be fun in the way we present our results.

It's an index that takes into account, for example, the loan to valuation, the extent to which you can borrow against the value of your house; the diffusion of home equity withdrawal products; and the extent to which there's a secondary market for housing, so the extent to which securitization is widespread in the economy.

The U.S. turns out to be the country with the most developed mortgage market. Most developed mortgage market here means the market where it's easier for households to access housing-related credit.

European countries like France, Italy, Germany, Austria and Belgium tend to score relatively poorly in this index.

Of course, there's a very close correlation between this index and the mortgage debt to GDP ratio. Mortgage debt to GDP ratio tends to be higher for the countries with higher values of this index. So it's really sort of a proxy of the extent to which, as I say, it's easier for households to access mortgage-related, housing-related credit.

Why is this important? As we see in these two scatter plots here, in the countries where the mortgage market index is higher, the correlation between house prices and consumption at cyclical frequencies, so the trend in consumption is actually stronger. Here, the coefficient that measures how much consumption is going to increase by a 1 percent increase in housing wealth is higher in economies with higher mortgage markets. So, again, these two scatter plots point to the importance of the level of development of mortgage markets for consumption.

So the two questions that we face is whether these innovations in housing finance -- all these countries that we are considering have moved towards more developed mortgage markets -- have been like a more competitive mortgage market where it's easier for households to access credit but to a different extent. The U.S. is still, as I said, the Anglo-Saxon economies and some European economies like the Netherlands are really very much ahead of the other European countries, continental European countries especially.

Whether these differences have something to say in terms of the degree to which developments in the housing markets spill over to the growth of the greater economy and the second, whether these innovations in the system of housing finance have affected the role of housing in the monetary policy transmission mechanism.

This is a technical slide. What we use is vector autoregression model with housing variables for the 18 countries. We split the sample in two: the first part with the old system of housing finance, and the new, the more recent with the innovative sort of mortgage market system of housing finance.

We identified several shocks. What I want to stress here is the housing demand shock, a change in preferences toward housing -- so people deciding to buy more housing than going to restaurants or whatever other kind of consumption plans they may have, something that really originates in the housing sector. It's exogenous, as we say, in the housing sector.

What these results show is that a relatively high percentage of residential investment and house prices variability at different horizons, time horizons, are explained by shocks in housing demand. Even if the variability of output is not affected that much, these are the averages across the OECD countries. The averages, of course, across OECD countries mask a lot of cross-country heterogeneity. We see that for some countries like the United States, for example, these housing demand shocks explain a lot of output variability.

What is more important from this scatter plot is what we find is that the countries with higher mortgage market indexes, with more developed mortgage markets, like the United States, are also the countries where a higher share of the output variability is explained by the housing demand shock. So this is to say that based on this model, we found that countries with the more developed mortgage markets, where it's easier for households to access mortgage credit, they are also more exposed to shocks from the housing sector.

What about monetary policy and the role of housing in monetary policy? Here, we have one of these animated charts.

So we start with a monetary policy shock which takes into account the sort of variability of interest rates, short-term interest rates. In the first part of the sample, what we find is that this is the consequences of this monetary policy shock on house prices and residential investment and output. So house prices and residential investment and output are negatively affected.

There's a strong effect over the few initial quarters. I mean these are quarters in the x-axis. Then the effect is reversed quite rapidly, like after probably 10 to 12 quarters for residential investment and output.

What happens in the second part of the period? So from the mid-eighties to the 2006, these lines get much smoother. The impact of monetary policy on housing variables and on output is more persistent but actually even less stronger.

In a way, if you look at the chart, you come up with the conclusion that Bernanke has come up with in his Jackson Hole speech, that residential investment is and housing, actually, is not as central to monetary policy transmission mechanisms as it once was.

The problem with this conclusion is that it ignores a fundamental difference between these two periods. In the first period, monetary policy shocks were much stronger. Monetary policy was working through these strong changes in house prices. The one standard deviation of interest rates amounts to 120-130 basis points.

In the second period, monetary policy is much smoother, works in a more predictable way. The one standard deviation in interest rates is only 30 basis points.

So, once you take into account for these crucial differences between these two periods and you measure the extent to which these variables respond to, say, 25 basis points, 100 basis points increases, you sort of normalize the response to take into account the differences in sizes of the monetary policy shocks. Then you get something different.

Then what you get is that in residential investment –- this is the first chart –- the response of residential investment to a 100 basis points increase of interests rates, for the United States, it's more but not that much in the second period. For real house prices, the response of real house prices to these monetary policy shocks for a 100 basis points change in interest rates, it's much stronger in the second period compared to the first one.

If you look at the effect on output of these monetary shocks on output, you find the same results. The effect is much stronger in the second period for the U.S. and, in general, for most of these countries than compared to the first one.

Again, the scatter plot here shows that in the countries where mortgage markets are more developed, so it's easier for households to access mortgage credit, the response of output to monetary policy shocks is stronger.

So what we conclude out of this is that the innovations in the mortgage markets, the role of housing in the monetary policy transmission mechanisms has probably changed away from residential investment or monetary policy, especially in the U.S., may be less effective in controlling residential investment because the reduced control on the quantity of credit available in the market. But the effect of monetary policy on real house prices, on house prices in general, is much stronger with more developed mortgage markets, with the mortgage markets where it's easier and the role of housing as collateral is strengthened.

Now, here, what we do is we look at the systematic component because so far we've been talking about monetary policy shocks. As I said, monetary policy has been increasingly conducted less through expected changes in interest rates and more through the systematic part, through the communication of the Fed in general and central banks plans to markets.

The way we try to sort of capture the systematic part of monetary policy and its impact on housing variables and on output has changed over time is using these counterfactual scenarios. We ask ourselves what would happen to residential investment and real house prices if interest rates had been constant in the U.S. from 2001 to 2007 -- so there would have been no movement in interest rates whatsoever -- and what would have happen if interest rates would have been 100 points higher than they would have actually been over this period?

What we find is that both real and residential investment and real house prices increases, especially if we kept interest rates constant over this period, would have been much more moderate.

The main point of this chart is more of positive implication more than the normative one. What I mean is that we're not saying that the Fed should have really not eased monetary policy in the first part of the 2000s. That's something different.

What we show here is that even if we look at the systematic part of monetary policy, the way we do it with this counterfactual, we see housing is very much important in monetary policy. Monetary policy has still a lot of control on housing variables, especially in the U.S. with the mortgage markets which are more developed based on our index. In an economy where the mortgage market based on our index is not as developed, like Ireland, we don't see actually a lot of difference, using this counterfactual.

So this is something that we interpret as saying in countries with mortgage markets that are not as developed as in the U.S., monetary policy may be less effective in its impact on housing variables than the other economies with more developed mortgage markets.

The final part of the chapter has to do with the normative implications of monetary policy. To get the normative implications of monetary policy, what we do is we use a standard equilibrium model with housing into it. There are four characteristics. I think the most important are the first two really in this model that drive the results.

The first one is that there's a mix of patient and impatient consumers. The patient are the ones that do consumption smoothing, the permanent income hypothesis consumers. So, basically, they try to smooth consumption over their life cycle.

The impatient consumers are those that they always want to consume more. If you give them $100 more now, they consume $100 more now. They are always on the sort of binding part of the budget constraint, and the budget constraint is characterized by the housing collateral. So, in order to borrow more, they need to use their house as collateral.

The extent to which they borrow out of the housing is a function of the loan-to-value ratio. It is one minus chi in this formula. Chi is the sort of down payment. So the higher the loan-to-value ratio, the more they can borrow out of the housing, the more they can consume.

The last point is we have a monetary policy following a standard interest rule which is a function of inflation and the output gap. So we have an economy with a high loan-to-value ratio, 90 percent, where consumers can borrow 90 percent of the value of their houses, and then an economy with a loan-to-value ratio is modest, 60 percent. If you want, you have a U.S. economy, and this is a German economy. More or less, this 90 percent versus 60 percent reflects what the real loan-to-value ratio, the typical average loan-to-value ratio, is for these two countries.

So we shock the model. We have a housing shock here as well. What happens if households become more keen on consuming housing compared to something else?

We see that the volatility in terms of response of upwards consumption is much stronger in the economies with the high loan-to-value ratio, the U.S. kind of economy. The reason is that it’s very simple.

This feedback, this financial accelerator effect, this feedback effect from house prices to consumption, from consumption to house prices and from house prices to borrowing is much stronger in the high loan-to-value ratio economies than in the low loan-to-value ratio economies. So this extra volatility kicks in, in this first kind of economies after a housing demand shock.

Same thing in a negative financial shock: This is a reduction in the amount of credit that houses can get for any level of house prices, for example, a tightening of lending standards by banks. Again, the effect on output and consumption is much stronger in economies with high loan-to-value ratio than in economies with low loan-to-value ratio.

This is consistent with the results, the empirical results from the graph that I showed you before. Economies with more developed mortgage markets, in this case, economies with high loan-to-value ratios, are more exposed to shocks in the housing sector and in the financial sector compared to economies with less developed mortgage markets.

What are the implications for monetary policy? We have two implications here. First is how much interest rates need to change in order to fully stabilize inflation. Here, the objective of the central bank is to fully stabilize inflation, and it would be exactly the same thing if the objective is, as we show later, to minimize a loss function with the output gap, deviation from the output gap and inflation is the argument.

What we show is that, again, in economies with high loan-to-value ratios, interest rates need to be increased in the positive housing demand shock and decreased in the negative financial shock, more aggressively in economies with high loan-to-value ratios than economies with low loan-to-value ratios.

The reason is simply that in the first kind of economies with the high loan-to-value ratio, there is this extra volatility coming in from this financial accelerator, and the economies are better served by a more aggressive reaction in terms of interest rates.

Even if you remember the results from the positive part, from the empirical part of the chapter, we show the monetary policy is more effective in economies with high loan-to-value ratios. Still, the addition of volatility coming from the financial accelerator is such that the economy is best served, in this case, the central bank that wants to fully stabilize inflation is best served by a more aggressive reaction to interest rates. In a way, this is what the U.S. has been doing versus what Germany sort of has been doing.

The last result is that we basically take this Taylor Rule in these two economies. We shock the economies with the same shocks. We ask ourselves the objective here of the central banks is to minimize a loss function with deviation from the output gap and inflation is the argument.

So they want to minimize variability around this desired steady state, in this case, values.

We say, what if the central bank in this Taylor Rule responds to house price inflation in addition to consumer price inflation and the output gap volatility?

We found that in the economics with low loan-to-value ratio, after a housing demand shock and a productivity shock, the optimal coefficients on this house price inflation is zero, meaning that in these economies, responding to house price inflation doesn't buy you anything. The central bank is as good as just responding to the output gap and inflation.

With high loan-to-value ratio, though, the optimal coefficient is different than zero. It is positive. That means that (interruption) difficult agenda for our country but I think the right policy response to the observations that Financial Innovation has made the interaction of housing and the rest of the economy more complicated than it used to be. Why don't I stop there?

MS. BRAINARD: Terrific. Well let me turn first back to Roberto and Simon and I'd be very interested in your reaction, particularly on first of all the monetary policy front, but also to the extent you did look at regulatory questions whether you can draw some conclusions or even prescriptions across countries on the regulatory front and then we'll open it up to the audience.

MR. JOHNSON: Let me respond in broad terms and address the issue of what happened in the U.S. and why and other countries and then to Roberto speaks specifically about, you know, what exactly are we suggesting for how monetary policy could be conducted differently.

Usually Doug when people respond to us on these terms, there's a third leg, a third element to the response which is a good one which includes something about the global savings glut. I don't know where you stand on that but you could say look, you can have some arguments about U.S., the U.S. monetary policy, what happened to sure rates and you can certainly raise issues in retrospect about regulator responses, totally reasonable. But in addition we have to recognize there's a lot of savings that people are trying to make out there in the world, particularly in Asia and China and Japan, and also in Middle East as oil prices rose.

And there was a big issue for all industrial countries about where these savings were going to go. And you know, one sort of defense of the FED, I'm defending the FED, is that they had a different sort of path for short term policy interest rates than say the U.K. and also on regulation you can argue there were differences.

And yet the U.K. has had a very similar kind of outcome because long term interest rates were pushed down by this high level of global savings. And I think that's the context in which we'd like to see this. I mean, these are important, sort of like tactical issues that can make a big difference and we think that some central banks such as the Riksbank in Sweden have a different approach to this and I think we're sort of weighting things a little bit in their direction.

But I think the big question, both for the last five years and going forward is what are you going to do with the savings? Who absorbs the savings? And actually our position which we articulated in the latest World Economic Outlook is the U.S. current account deficit is coming down, likely to continue to come down with U.S. household savings are going to rebound from what had been extremely low levels, even for U.S. households. And whatever you think about U.S. house prices, not many people think they're going to continue to go up so the households are going to make this adjustment.

But we still have a lot of, let's call it attempt at savings around the world and I think that one or two things are going to happen. Either you're going to get pressure on long term interest rates somewhere else in the world, I mean the pressure here which managed to be helpful but those savings are going to get absorbed somewhere either in other emerging markets or in European economies or quite possible, you avert significant slowdown in the global economy and you don't generate those kinds of savings anymore.

So I think that's just add a third level of critique to our work if you like, but it's also the way we see it in the perspective.

Let me turn to Roberto on monetary policy specifics.

MR. CARDARELLI: Well on monetary policy I completely agree with you, hundred percent. And especially on something that you said that really sort of captures the whole essence of what we've been discussing. You said that monetary policy needs to correctly take on board house prices. Basically you said what we are recommending in this chapter is probably too extreme, what we need is a monetary policy that correctly takes on board house prices. But that's exactly the point, is this correctly taking on board house prices we're discussing here and I think the way that the chapter goes is that in order to correctly to take on board house prices you need to take into account differences in development of mortgage markets.

And this sort of emphasis on once you have your forecast done correctly everything is fine on the (inaudible) efficient is. My reaction to that, are we sure that we have the model, that we have the forecast ability to take house prices on board the way they should be and I think history is actually putting a big question mark on there. I think we, central banks do not still have the model that takes into account house prices the way they should be. There's a lot of uncertainty on it.

Something that is not in the model is uncertainty. I mean, the model is very simple how central banks see each of the shocks in turn, they understand what the shock is and they react to it. Of course, we live in a completely different environment, in an uncertain one. The shocks that we model, these are fundamental shocks. Shocks in the fundamental, there are no bubbles. I mean we're not talking about bubbles here.

But central banks live in an uncertain world and they need to take this risk management approach. So if you combine this sort of need for risk management approach taking into account events that you're not sure about right now that may have some very negative consequences down the road. If you combined uncertainty, if you combine the fact that central banks do not have, I think, the models, the forecasting models and the models of the economy that correctly takes housing into account. Maybe it's going to be in ten years they're going to be more than equipped to deal with it.

The fact that they don't have the forecasting ability to take into account everything that happened, you know the links between housing and the vicious cycle suggests that we think this risk management approach there may be cases to take house prices into consideration. And there've been banks who actually been doing this. The Sweden central bank that we call in the chapters actually been doing it. We don't have the counterfactual -- we can't say that, in February 2006 just to tell people here what the central bank of Sweden did was to simultaneously download inflation forecast and increase interest rates and the reason why it increased interest rate because they were worried about house prices.

Whether they were successful in doing that, of course as I say we don't have the counterfactual. Certainly something that they didn't lose control of was inflation expectations because inflation expectation been very well anchored around two percent which is the target in that central bank. House prices still continues actual increasing at the rapid pace. Maybe they would have increased, you know, at a very even higher pace without that but it's very difficult to say that was the right thing to do.

Certainly they didn't lose control of inflation expectation which is what, you know, people may be worrying about this multi sort of approach, eclectic approach to monetary policy. So I think we agree and actually the main sort of concrete monetary policy implications that we have in the chapter is extending the time horizon enough to which inflation targeting in implemented. The number of years after which a central bank aim at returning to the target from the two years, for example, to three years.

It's interesting that the FED has actually extended the, late last year the horizon of the forecast to three years. A lot of central banks are actually talking about that. Why that extending time horizon exactly because this housing related financial imbalances may take time to build up and looking at two years may not be enough. That's like an example of the limitations that I see in the forecasting models that central banks have, has right now in dealing with house prices. And the extension of the time horizon is a way of paying particular attention to house prices the way we're are arguing in the chapter. And it's especially in account with mortgage markets. They're more developed; we think this kind of consideration should be part of the policy discussion.

MS. BRAINARD: Let me do the following. Let me open it up, there's a handheld that's going to come around and I just ask you to wait for that before asking your question.

QUESTIONER: Yes. My name is Pegerofski, member of the (inaudible) Global Finance.

We all know that we wouldn't have this term at this moment if this very sub-primly awarded mortgages to the sub-prime sector because you could have very good mortgages still in the sub-prime sector. This very sub-prime awarded mortgages have not gone global and we also know that the main agents of contingent of that were the credit rating agencies giving high rating to instruments that were securitized by these mortgages to such an extent that the first bank that collapses as a result of that is really a German bank that has never given mortgages in its life over there. So it is a central element in the whole crisis that we have right now and yet, it is completely ignored in the report, everywhere.

Is it because this is considered just a one type event? Or is this not just a new type of systemic risks? Next time around we might follow them over an even more dangerous precipice. It is a fundamental question I don't know how it can just be sort of pushed away because we know for a fact we would not be at this moment in the sub-prime mortgage crisis. We might be in other places, but not in that one.

Thank you.

MS. BRAINARD: Simon why don't you start talking a little bit about the role of the credit rating agencies and also the types of mortgages that were extended. Doug I know you have written about this as well.

MR. JOHNSON: Sure. Thanks for the question. A very good point. You know, we at the IMF have several publications that come out at the same time around the spring meetings and there's particularly a pair of flagship reports they've long been the Global Financial Stability Report which dealt in detail with exactly this issue and other causes of the credit, that reports more focus on financial markets and credit markets around the world. This report if you like is more focused on the real economy and is looking at particularly as you can see the linkage between housing and monetary policy which is, you know, an issue shared across industrial countries.

But we completely agree with the idea that first of all sub-prime went global through various forms intermediation that weren't fully understood. I think at the moment, and we certainly recognize the problems the credit raters have had. I think we would put rather a bit more weight than you do and than Doug perhaps did on the failure of risk management in leading financial institutions.

So I think that the world experts on risks, what are risks, how do you quantify them, how do you manage them, and how do you spread them, and how do you get them away from yourself? These people turned out to have a lot more risk than they, themselves, realized. And so it's the concentration of those risks at the core of the financial, yes, you're right. What happened to IKB and Saxon in Germany was striking and shocking, but I don't think that sort of really challenged the financial system over the past nine months. That has been much more the losses suffered by the major banks that were doing the packaging and doing the selling and we thought offloading the risks. Right? I think that's why Mr. Bernanke said a year ago that it would be contained because it looked like securitization was about diversifying risk and it wasn't or in large part it wasn't. It was about concentrating risk back on the people who, the core of the financial system and that's obviously what we're trying to deal with now.

So we recognize those points that are central to the Global Financial Stability Report. They're not the focus of this chapter. You're right. This chapter is about housing monetary policy dynamics more broadly. I would also say though that you don't need to have sub-prime in a housing market in order to run into trouble.

I mean, loan to value ratios are very high in other places and the financial accelerator we know, I mean, that's exactly the point of the chapter is to show people how that's changed based on financial innovation and we do hear from some countries who say well, we don't have any sub-prime therefore we're not going to have an issue if there's a bigger housing price question. I think that is a non sequitur completely.

MS. BRAINARD: Doug.

MR. ELMENDORF: So I agree with everything Simon just said and I think the reason, I think, the regulation is so crucial for avoiding these problems is precisely because of the problem he highlights that there seem to be the vision that the securitization and derivatives of that were disseminating risks. And in fact, an awful lot of that risk came back onto or right next to the balance sheets of the large financial institutions and by some estimates half of the ultimate losses on mortgage loans will end up being borne by the large U.S. financial institutions. That's a much larger share than I think people had expected and a greater hit on those firms than they clearly had expected.

I think the problem is not only did the risk come back; it came back in a less transparent form and came back in the forms that had less capital to stand behind them. And that I think has been absolutely central to the problems that we've had. And I think that has to be absolutely in the center of our minds as we think about solutions. I think the question about what to do about sub-prime lending is very much on people's minds. I think it's correctly not the subject of this particular chapter, but it's not an issue that's being ignored. The Federal Reserve just under its existing legal authority has proposed a set of changes under something called the HOEPA Rules that would have greatly change the way the sub-prime lending played out over the last few years had it been in effect over that time. And there are further legislative discussions about what to do beyond that.

I think at the moment in the policy debate, most people are focused on how to get out of this problem. It is very important that we not get out and say well that was great, we've survived, let's get onto the next thing. We'll actually take the time to make the changes in policies, in regulatory policies in particular that we need to make.

MR. JOHNSON: Lael, if I could just add one thing?

I think Doug it's not just the U.S. financial institutions, it's also certain European financial institutions and that's part of the global spreading and I think what we're seeing, this new initiative announced today by the Bank of England is in part addressing –

MR. ELMENDORF: Yes.

MR. JOHNSON: -- not just U.K. specific things, but global housing issues in a way in which they've spread across through the mechanisms of which I think we agree on.

MR. ELMENDORF: I think the most striking thing about the U.S. was the sense that we've been through this process sending the risk around the world and it's, I think, been surprising by many people that 50 percent of it is borne, turns out to be borne by the 20 biggest U.S. financial institutions or something like that.

MS. BRAINARD: Okay. I've got Bruce over here and then –

QUESTIONER: A question for Doug. I agree that in concept regulation has a much larger role than seems to be mentioned in this report. And so when Roberto said that he agreed with you, he was, I'd like to know whether he agrees about whether regulation should be playing a much larger role.

But the fact of the matter is the developing financial markets means; I think implicitly that financial regulation is more difficult. There are more channels for getting around it. It's easy to talk about regulation in the abstract and at a 50,000 foot level. It's much harder to devise rules that work particularly in a globalized market.

My second observation, Roberto is that the models are wonderful as models. But it seems to me the discontinuities are in some ways the most difficult to predict and to adjust to. And by discontinuities I mean financial institutions that go bankrupt or risk going bankrupt and similarly homeowners who in political terms are very, very important and in moral terms they are very important. When they go bankrupt so to speak in terms of their housing that also has big implications for how quickly a recovery can occur it seems to me. Those are my points. Thank you.

MS. BRAINARD: On the first one I would like to turn it from an observation into a question and say so Doug what regulations do you think we should be adding? In particular and similarly, Roberto or Simon if you have some thoughts on specific regulatory enhancements.

MR. ELMENDORF: So Bruce that point is very well taken and has not escaped my notice. Martin Baily and Bob Litan and I are currently writing a paper that is designed to be very explicit about what we would do in the regulatory system to reduce the risk of recurrence and we're scheduled to present that paper in this room in about four weeks. So I would encourage you to come back.

But we're wrestling with it. It's not easy. I mean, so we have given it a lot more thought than my one paragraph might have suggested but it's still a very hard problem.

I think, undoubtedly there is a race between the regulatory process and efforts of people to evade that regulation and it is a race that the regulators will never win. Even for a moment probably and certainly not one they can declare victory and then go home. But it matters how badly they lose by. It matters whether they're in the race or just staying home to start with. And I think what we've done in the last decade in this country is not so much that the deregulation has been bad. It's that the regulation, the supervision has not kept up.

And so I think one example of that would be the structured investment vehicles, the SIVs. The number of banks set up that were not on their balance sheets and thus didn't fall under the strictures of the Basil II Agreement and that the bank supervisors sort of moved beyond. And it turns out when push comes to shove that the banks took those back onto their balance sheets in most cases.

And you know, speech that Federal Reserve Vice Chairman Don Kohn gave last week, he raised that as an important issue. He didn't say specifically what he thought the FED should do, but highlighted that as an important issue.

So some of the problems we're seeing, although they reflect innovation they're not in particularly far flung hidden corners of the system. A few years ago many people in a group like this might have said the Hedge Funds were their biggest concern about the future stability of the financial system and they may still be some day but they don't seem to have been now as far as we can tell at this point. Some have gone under and some will go under. But it really is more, sort of closer to the heart of the system institutions. So to be concrete I would do something about the off balance sheet exposures.

A second point that Don Kohn referred to and it also came out in a report of international regulators under the auspices from Basil, that looking at some institutions those have faired well and those have faired badly, at least in retrospect the bank supervisors can see errors in risk management on the part of institutions that faired badly.

For example, a lack of a constituency in looking across an entire institution and not recognizing, so having individual pieces of institution that were taking certain risks not realizing the extent those risks were correlated across pieces of the institution. Now on some levels that seems so obvious, you kind of wonder how that was missed by everybody. I don't have the answer to that. But I think the supervisors, the bank supervisors themselves already can see ways in which they missed things they should have been catching.

I would extend the sort of Federal Reserve level of supervision to large investment banks. I don't know where you draw that line exactly, but I think they have correctly now gained access to the Federal Reserve's discount window or a close equivalent of that and I think that has to be of closer regulation.

I think better regulation in mortgage lending. I think it is not impossible for institutions, of course, to get into trouble even with appropriate lending, but it's harder. And I think if we can, in some ways fixing mortgage lending may seem like the last problem. On the other hand mortgages are a pretty big piece of the debt of this country, a pretty big piece of most household's financial lives. I think if we can have some limitations or at least defaults that will keep households more focused on mortgages that make sense for them at the admitted cost of some loss of innovation. I think that's an appropriate way to strike the balance.

Those are the sort of things I would do.

MR. JOHNSON: So I think these are very good questions. The IMF does participate in the Financial Stability Forum and the FSF has come up with a number of points. Particularly, I think picking up on your idea that we have to have a global approach or at least within the set of industrial countries and I there's going to be something called a college of regulators where you get together and try to make sure there aren't gaps.

So it isn't that you have an off balance sheet vehicle somewhere in Europe and that somehow it doesn't fall under the European rules or the U.S. rules. These things need to be more integrated.

I'm a bit more optimistic than Doug is, I mean, on how this is going to go. Doug, as you said, the regulators will never win. If that's the case I think there is a much bigger problem or set of problems or continuing set of problems looming. You know, it's very much about do we think that the private sector can come to understand risks and how to manage risks by itself or is something else needed? And I would suggest an analogy with dentistry, if I may.

You know, a couple hundred years ago dentists weren't very good at managing risks and they would extract your teeth, it was a free market. They would extract your teeth on street corners and it was pretty painful and complicated and it was also a major cause of death in the 17th Century in the U.K., by the way. And you know, over time we've evolved a set of rules and self regulation that actually works pretty well. You can generally get very good dental treatment and what I would emphasize is dentists are extremely innovative. You have a very high concentration of patents in the dental business. They're continually improving the technology, reducing the pain levels. Why can't we aim for, I mean, and I don't think we don't worry about dentists getting ahead of the regulators. I haven't heard that one.

So what is it about dentistry that we've managed to get a grip on from a social point of view that is alluding us in terms of financial innovation?

MR. ELMENDORF: Can I just say quickly? So Simon follows in the heels of another very distinguished economists in making analogies between dentistry and economics. Of course, I'm thinking of John Maynard Keynes who observed 75 years ago that he hoped one day economist would be thought of like dentists as practical, competent people who could get some assigned task completed.

I think the lesson in the last 75 years is that economists aren't there yet. And I certainly wanted to express my optimism that eventually in some better world we will get there. But I am much less sanguine and somewhat less persuaded by the analogy.

MR. JOHNSON: Well, the comparison of those terms is much worse than you think Doug because if you saw a dentist's office 75 years ago I don't think you would have gone anywhere near it and the levels of pain they were offering as part of their business was also not acceptable.

So they've made a lot of progress, I'm not sure we have.

MR. CARDARELLI: On the question, I agree that regulation is important, maybe even more important than monetary policy. But I see a risk here. I see that the discussion here today is, well, the discussion is mostly beyond regulation. Why? Because we've seen regulatory failures ahead of us I mean as big as houses really.

And there's not a lot of discussion about monetary policy. You read about this in the press but this sort of rash of channeling the discussion towards regulatory challenges. You know, monetary policy is, you hear it here and there, stories that you maybe this huge amount of liquidity created now is going to come up in another bubble down the road. But there's really not a lot of discussion and this really, maybe discussions are more within central banks than outside. I mean the DCB a percent of the chapter, I thought they were going to react angrily and they didn't. They're talking about this thing. How they should really deal with cases where house prices increased the way they've been increasing over the last five years, six years in most of these countries.

So not a lot of discussion about, the scope of the chapter was sort of say something about that. Maybe, you know, throw a stone in the pond in a way and see what kinds of waves comes out of it. I see it as strange. There's a lot of discussion about regulation, not a lot of discussion about what monetary policy could do to, you know, deal with this kind of situation.

MS. BRAINARD: Let me suggest the following. There are I think one or two additional questions. Why don't I just collect both of them and then have the panelists just give 60 seconds of kind of final thoughts.

QUESTIONER: Hi. I'm Heather Scott with Market News International.

Slightly tangential issue, I was wondering if I could get your views on monetary policy challenges in large emerging markets that are not the center at this crisis but are affected by rising inflation, the credit crunch, et cetera. Brazil for example raised their interest rates more than expected and is also considering a tax on foreign investment to tamp down this sort of hot money coming into the country.

MS. BRAINARD: One additional one. Yeah.

QUESTIONER: Hi Corey Boles from Dow Jones News Wires.

Currently in the Congress there's two distinct approaches to helping out the housing market. In the Senate there's a number of financial incentives aimed largely at house builders and lenders, whereas in the House they appear to be aiming their assistance more at individual home buyers and potential buyers.

I'm wondering if the panel thinks that either of those approaches or which is a better approach to Congress dealing with the situation?

MS. BRAINARD: Great. Okay, why don't we just take it in order; Roberto, Simon, and Doug and feel free to respond to the questions and also just any reflections overall.

MR. CARDARELLI: Yeah, as to emerging markets are facing completely, if you want, at the moment a different set of challenges for them. Most of them are dealing with inflation challenges, inflation consequences of large capital influence.

We actually had a WIA chapter, was that last edition of the WIA chapter where we analyzed what should be the policy responses to large capital influence in emerging markets. And we came up with the main recommendation was more than monetary policy. Monetary policy, of course, is going be hard time in dealing with these cases more than monetary policy for all sorts of different reasons. More than monetary policy we recommend the fiscal policy measures and fiscal prudence.

I know it sounds like an IMF mantra to sort of recommend fiscal prudence, but I guess it's only reasonable to recommend countries that see this huge amount of capital. Most of them halt money kind of flows to sort of end inflationary pressures out of them to just prevent the public sector from adding to the aggregate demand sort of pressures.

So it's sort of contained fiscal expenditure and avoiding going to this fiscal parity at times. And we find evidence of the countries that kept a more sort of tighter lead to the fiscal spending and these episodes faired better when the capital flow stopped and they went through a less costly adjustment just because of the fiscal. So I would say for them, still for my part, the fiscal part is even more important than monetary part.

MS. BRAINARD: Simon.

MR. JOHNSON: Yes. Just adding on the emerging markets, obviously there's a serious shock to food prices and fuel prices around the world, so in addition to the hot capital issue which is there and I think part of this excessive attempt at savings around the world. Emerging markets have to contend with some substantial food price shocks. And managing that in the context of what we regard as a global slowdown is going to be difficult.

We do think that major emerging markets have made a great deal of process in establishing the credibility of their monetary policy and we think they have strong by and large, medium term fiscal frameworks so we're optimistic that they can navigate this. But we absolutely recognize that these are difficult waters.

Responding to the question on housing, I'm not sure I draw the distinction that you're making. We hear sensible ideas of different kinds from all parts of Congress and from the Administration. I think we're in favor of an integrated approach to this problem and the lesson we draw from Japan in the 1990s for example, is that you want to make sure that bank capital is adequately addressed.

Now we're hopeful that there's going to be a purely private recapitalization of banks in the U.S. and what's encouraging relative to again the Japanese experience, is the speed with which banks in the U.S. have recognized their losses and have raised capital. And obviously the measures taken by the FED over the past month or so have brought more stability to the market. We think there's till pressure in terms of liquidity, but it's certainly much better than it was.

So if you have progress on bank recapitalization and hopefully a recognition by banks and other lenders that there are better ways to deal with impending foreclosures through voluntary renegotiation for example. We think there are some sensible schemes out there that will kind of tilt people towards that. I think that will definitely help to speed up the recovery of the economy.

MS. BRAINARD: Doug.

MR. CARDARELLI: I'll leave the emerging markets question aside, but I'll take up the other one. I agree with Simon about the importance, the absolute crucial importance of banks raising new capital to continue lending and I think a number of banks have shown a willingness to do that.

I certainly hope the regulators and supervisors are applying all the pressure they can to accomplish that. I'm also hopeful that will work without further government involvement needed. Although I'm not a 100 percent confident that will work without further government involvement. I think there is some risk of a further crisis or just a slow slide into a lack of financial intermediation that would require more vigorous government action but now is not the time for that.

I think, turning to the bills that are working their way through Congress now, the change in the corporate tax rules that would benefit home builders and other companies would have no useful effect on current economic problems. That is that proposal makes no sense to me as a method of addressing any of the current concerns. Proposals to provide some additional encouragement and aid to encourage mortgage modifications of the sort that Barney Frank has pushed in the house and

Chris Dodd has pushed in the Senate, I think are useful.

I testified to that effect at the Senate Banking Committee last week and you can look up my words on the subject on the Brookings website.

I think those plans do strike an appropriate balance between not throwing open taxpayer's wallets to anybody who wants a better mortgage deal. At the same time not sitting on our hands and allowing a very inefficiently high level of foreclosures to occur.

So I think those steps and others like them are appropriate and effective, but I think they are a fairly small bore regarding the larger financial problems. The amount of money that will be involved, the number of people who will be helped. It will steps in the right direction for the broader macro issues, but should not be viewed as the solution to them. I think the broader solution rests more with the action the Federal Reserve is taking and the actions of the private financial institutions are taking to admit to losses, raise capital, and keep lending.

MS. BRAINARD: Great. Well I know that if you want to pursue some of these issues further, I think Simon has a blog at the IMF and keep checking the Brookings' website because Doug's answer on what we should do on the regulation in the U.S. will be coming out soon. So keep checking the website and please join me in thanking all three of our panelists for a really interesting discussion.

* * * * *