Elizabeth A Duke: Comments on housing and mortgage markets

Speech by Ms Elizabeth A Duke, Member of the Board of Governors of the Federal Reserve System, at the Mortgage Bankers Association Mid-Winter Housing Finance Conference, Avon, Colorado, 8 March 2013.

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Since joining the Board in 2008 amid a crisis centered on mortgage lending, I have focused much of my attention on housing and mortgage markets, issues surrounding foreclosures, and neighborhood stabilization. Today I am pleased to provide some comments about the outlook for housing and mortgages. Before I proceed, I should note that the views I express are my own and not necessarily those of my colleagues on the Board of Governors or the Federal Open Market Committee (FOMC).

I think the evidence is pretty clear that a recovery in the housing market is finally under way. National house prices have increased for 13 consecutive months and are now 10 percent higher than at their trough in December 2011.[1] Construction activity has also picked up. Housing starts and permits are still far below their peaks but have risen by about one-third over the past year, and homebuilder sentiment has improved notably.[2] New and existing home sales have increased. In national surveys, households report that low interest rates and house prices make it a good time to buy a home; they also appear more certain that house price gains will continue.[3] And real estate agents report stronger traffic of people shopping for homes.[4]

The open question is whether this positive trend is sustainable. When I look at the factors driving recent improvement and those that have inhibited housing recovery through the downturn, I conclude that recent gains in the housing market will continue and perhaps even strengthen. My main hesitation with this forecast is that mortgage credit conditions remain quite tight for many would-be borrowers, and I suspect that the easing of these conditions will be a slow and gradual process. In particular, I expect demand to come from a pickup in new household formation, but I also recognize that these households may be the very population that faces especially tight credit conditions. I will return to the subject of mortgage credit later in my talk.

Housing market overview and outlook

Last year's house price gains were achieved in an environment largely defined by historically unusual factors: a large number of underwater homeowners, which have effectively reduced the supply of properties for sale; the fact that foreclosed properties continue to represent an outsized, although gradually decreasing, share of sales transactions; and strong demand on the part of investors.

Turning first to underwater homeowners, although the actual number of these homeowners is unknown – plausible estimates range fairly broadly from 7 million to 14 million – it seems clear that some are unable or unwilling to sell their homes because they lack the funds to carry out the transactions or are reluctant to realize losses. As a result, some potential sellers

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[1] House price information is from staff calculations based on CoreLogic data.

[2] More details on homebuilder sentiment are available on the National Association of Home Builders website.

[3] Household reports are from staff calculations based on results of the Thomson Reuters/University of Michigan Surveys of Consumers.

[4] More details on real estate agent assessments of market conditions are available at the National Association of Realtors website.

have not responded to the signs of housing market recovery by putting their properties on the market. The number of single-family homes for sale has fallen to its lowest level in a decade, which has likely contributed to the recent house price gains. Indeed, cities that started 2012 with an outsized share of underwater homeowners have seen some of the largest price increases.

Next, sales of properties from lenders' real estate owned (REO) inventories represented 14 percent of sales transactions in 2012, down from 21 percent in 2010.[5] These sales have damped house prices by increasing the supply of homes for sale and, in some areas, by reducing the desirability of a neighborhood as a place to live.[6] This effect may be diminishing, as the foreclosure inventory has gradually started to decline. The decline in REO sales has been partly offset by an increase in short sales, but these properties tend to transact at smaller discounts than REO properties.[7]

Finally, investors have been attracted to the housing market because of the low prices on REO properties. The properties tend to sell at lower prices because some are damaged and because lenders may be more motivated sellers than the typical homeowner. The combination of a low purchase price, a possible steady stream of rental income, and the potential for significant capital gains has attracted considerable interest from large institutional investors as well as from the mom-and-pop investors who have historically dominated this market. This increase in investor demand has supported house prices so far and may continue to provide a floor for them.

What role will these forces play going forward? I think house prices will continue to rise, as the supply of existing homes on the market will remain quite tight. I do not believe that a flood of houses on the market from households that are currently underwater or from bank REO is likely to materialize or to be sufficient to outpace growing demand.

As house price gains continue, more underwater homeowners will regain a position of positive equity in their homes. House price increases of 10 percent or less would be sufficient for about 40 percent of underwater homeowners to regain positive equity; presumably, some subset of those homeowners will be interested in selling their homes. If the majority of newly above-water sellers exit homeownership, they could create a substantial increase in overall supply and change the trajectory of house prices. But I think it is much more likely that many of them will also purchase a home in the same market, perhaps moving up to a larger home or downsizing to a smaller one. In that case, they would create additional demand as well as supply. And, in any event, the sales would provide more clarity about the level of house prices and increase liquidity in these markets.

The weight of the shadow inventory – homes in the process of foreclosure or loans 90 days or more past due – on home prices is likely to wane as the number of loans entering the foreclosure pipeline declines and those already in the pipeline resolve. I think the nature and duration of the effect on prices will vary across the country, depending on the location of the shadow inventory and the speed of its resolution. Some evidence of this relationship can be found by comparing the relative performance of house prices in states where foreclosures are processed through the court system (judicial states) with performance in states where foreclosures do not go through the courts (nonjudicial states).

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[5] A home enters a lender's REO inventory when the lender completes foreclosure proceedings or otherwise obtains legal control of a property. Percentages are from staff calculations based on data provided by CoreLogic.

[6] Elliot Anenberg and Edward Kung (2012), "Estimating the Size and Source of Price Declines due to Nearby Foreclosures," Finance and Economics Discussion Series 2012-84 (Washington: Board of Governors of the Federal Reserve System, October).

[7] The finding is from data provided by CoreLogic.

Through mid-2012, house prices fell further in nonjudicial states than in judicial states, likely in part because the faster nonjudicial foreclosure process boosted the for-sale inventory in those states. Since that time, though, prices have moved back up in nonjudicial states, as the inventory was worked down while prices drifted lower in judicial states as inventory accumulated. Over time, the shadow inventory is becoming more concentrated in states with the slower judicial foreclosure processes and will likely continue to damp house prices in those states. Nonetheless, the specific dynamics going forward will depend on the pace at which these properties are put on the market for sale.

Investor activity is difficult to predict. As house prices rise, some investors may no longer find purchasing homes to be a profitable enterprise. Other investors may want to lock in their gains and sell properties. The prospect of steady rental income and possible further capital gains, though, will likely continue to be attractive to many investors. In addition, I suspect that the development of large-scale rental of single-family homes as an asset class has gained enough traction with investors to continue in some form.

For the housing recovery to gain true momentum, however, demand for housing among owner-occupiers must increase. As I noted earlier, household sentiment toward homebuying, as measured by households' assessments of purchasing conditions and by homebuyer traffic, appears to be on an upswing and should gradually strengthen demand. But I expect the strongest impetus to recovery to come from pent-up demand for housing in the form of household formation. Between 2006 and 2011, roughly 550,000 new households formed per year, on net, significantly fewer than the 1.35 million per year over the previous five years. Indeed, household formation from 2006 to 2011 appears to have been far lower than in any other five-year period since at least the mid-1960s.[8]

Federal Reserve staff research indicates that this decline in household formation largely reflects the weak labor market, especially among younger adults. If you have an adult son or daughter still living at home because he or she can't find a job, it might not surprise you to know that the number of individuals aged 18 to 30 living with older family members increased between 2006 and 2010 by over 1 million more than would be expected by the demographic trend.[9] In this downturn, the unemployment rate among younger adults rose by more than among the population as a whole. And when they are unemployed or have low incomes, younger individuals are particularly likely to live with their parents or older family members rather than moving out on their own.

As the unemployment rate continues to decline – albeit likely at a slower pace than any of us would like – household formation and housing demand should increase. One model suggests that household formation could increase to 1–1/2 million or more per year. If, as seems likely, however, many of these new households rent rather than buy their homes, the effect on rental housing could be stronger than for owner-occupied homes, and applications for mortgages to purchase homes might recover only slowly.

Evidence to date of an increase in home purchases by owner-occupiers – as opposed to investors – is scarce. The most discouraging evidence comes from purchase mortgage originations. Data collected under the Home Mortgage Disclosure Act (HMDA) indicate that in 2011, purchase mortgage originations hit their lowest level since the early 1990s. According to Federal Reserve staff estimates, purchase originations remained near these subdued levels in 2012 even as mortgage rates hit historic lows.

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[8] The finding is from staff calculations based on data from the Housing Vacancy Survey supplement of the Current Population Survey. See U.S. Department of Commerce (2013), "Housing Vacancy Survey," U.S. Census Bureau.

[9] The information is from staff calculations based on data from the American Community Survey. See U.S. Department of Commerce (2013), "American Community Survey," U.S. Census Bureau.

The drop in purchase mortgage originations, although widespread, has been most pronounced among borrowers with low credit scores. For example, between 2007 and 2012, purchase originations fell by about 30 percent for borrowers with credit scores above 780, compared with a fall of about 90 percent for borrowers with credit scores between 620 and 680. Originations are virtually nonexistent for borrowers with credit scores below 620.

Whether this pattern stems from tight supply or from weak demand among borrowers with lower credit scores, it has disturbing implications for potential new households. Younger individuals – who have seen the greatest drop in household formation – have, on average, credit scores that are more than 50 points lower than those of older individuals, a difference that existed even before the recession.

Staff analysis comparing first-time homebuying in recent years with historical levels underscores the contraction in credit supply. From late 2009 to late 2011, the fraction of individuals under 40 years of age getting a mortgage for the first time was about half of what it was in the early 2000s.[10] The drop was especially pronounced for individuals with low credit scores and remained large even after controlling for local unemployment rates and for measures of the individual's demand for credit – a result indicating that tight credit supply is an important factor.

As I noted earlier, household formation has been particularly weak among young individuals, who are also a large part of the potential first-time homebuyer population. Many of these young individuals have relatively weak credit records and are more likely to have had a recent spell of unemployment. Our staff analysis highlights how tight credit conditions are for such individuals in the current environment. In the early 2000s, about one-third of first-time homebuyers under the age of 40 had credit scores below 620, and another one-fourth had scores between 620 and 680. Today, many of these individuals would have a difficult time obtaining mortgage credit.

Why is mortgage credit so tight?

Why are conditions still so tight for these potential first-time homebuyers, and when might they return to normal? As I'll discuss next, the mortgage market is reacting to a variety of economic, market, and regulatory issues that may not be present in other lending markets. So it's difficult to predict what a "normal" mortgage market will look like when things settle down. After the crisis we have just experienced, I am pretty sure that we don't want the market to return to the lending environment of the pre-crisis boom times. But I also don't think it would be a good idea to go back to the quite restrictive credit conditions of the early 1980s.

Part of the tightening in mortgage credit standards is the result of lender fears about the economy and the trajectory of house prices. Of respondents who reported tightening mortgage lending standards in the April 2012 Senior Loan Officer Opinion Survey on Bank Lending Practices, more than 80 percent identified concerns about the economy or house prices as a factor in their decision. As the economic recovery continues, lenders should gain confidence that mortgage loans will perform well, and they should expand their lending accordingly.

Credit for potential home purchasers with lower credit scores – in particular, the first-time homebuyers I discussed earlier – has likely also been affected by capacity constraints of mortgage lenders. As most of you know very well, the mortgage industry has been operating near its capacity. Although purchase originations have been subdued, refinancing originations, according to staff estimates, have responded to record-low interest rates by more than doubling from mid-2011 to the end of 2012.

[10] The finding is from staff calculations based on data from Equifax.

The ratio of refinance applications to the number of real estate credit employees – a measure of capacity constraints – has been at levels near those seen during the record 2003 refinancing boom. And, at the same time, each loan takes longer to process, as all elements of an application are now fully documented. Capacity may be slow to expand, as hiring and training additional staff takes time and some lenders may judge the boom as likely to be too short lived to justify the cost. Indeed, the number of real estate credit employees, as measured by the Bureau of Labor and Statistics, has only edged up over the past year.

When capacity constraints are binding, lenders may manage the surge in refinancing demand by holding mortgage rates high relative to lenders' funding costs. That would explain the pattern observed during refinance booms, such as the one in 2003, when mortgage rates fell more slowly than yields on mortgage-backed securities (MBS). Also, when MBS yields drop sharply, as occurred in September 2012 when the Federal Reserve announced its most recent MBS purchase program, the mortgage rate may take time to adjust as a result of both capacity issues and the need to process loans with rate locks in place.

Furthermore, when refinancing demand is high, lenders have less incentive to pursue harder-to-complete or less profitable loan applications. In the current environment, refinance applications by high-credit-quality borrowers – many of whom may have refinanced repeatedly as rates have fallen over the past couple of years – are likely the easiest to complete. And refinances under the revised Home Affordable Refinance Program, require substantially less documentation than other loans. It is possible that the abundance of these applications may have had the unintended effect of crowding out borrowers with lower credit scores, whose applications may be more time consuming to process. Indeed, staff research suggests that the increase in the refinance workload during the past 18 months appears to be associated with a 50 percent decrease in purchase originations among borrowers with credit scores between 620 and 680 and a 15 percent decrease among borrowers with credit scores between 680 and 720. Purchase originations among borrowers with higher credit scores appear to be affected to only a small degree.

Any crowding-out effect that does exist due to capacity constraints should start to unwind if mortgage rates stay at the current levels or rise, in which case the current refinancing boom will begin to run out of steam. Lenders might then ease credit conditions to fill declining refinance pipelines with additional purchase volume. At the same time, as lenders gain more confidence in the strength of the economic recovery and the upswing in house prices, their outlook for home-purchase originations may brighten, making them more confident in easing standards or increasing capacity. Even so, there are still a number of nonmarket forces at work that could make lenders more cautious than normal.

For example, lenders remain concerned about the risk that they will be required to repurchase defaulted loans from the government-sponsored enterprises (GSEs) – the so-called putback risk. The ability to hold lenders accountable for poorly underwritten loans is a significant protection for taxpayers. However, if lenders are unsure about the conditions under which they will be required to repurchase loans sold to the GSEs, they may shy away from originating loans to borrowers whose risk profiles indicate a higher likelihood of default. The Federal Housing Finance Agency launched an important initiative last year to clarify the liabilities associated with representations and warranties, but so far, those efforts do not appear to have been sufficient to keep putback risk from weighing on the mortgage market.

Mortgage servicing standards, particularly for delinquent loans, are more stringent than in the past due to settlement actions and consent orders. Servicing rules recently released by the Consumer Financial Protection Bureau (CFPB) will extend many of these standards to all lenders. These standards remedy past abuses and provide important protections to borrowers, but they also increase the cost of servicing nonperforming loans. Under current servicing compensation arrangements, servicers receive the same monthly servicing fee for the routine processing of current loans as they do for the more expensive processing of defaulted loans, a model that assumes that the higher profits on routine processing will offset

the cost of servicing delinquent loans. However, this compensation model, coupled with higher default servicing costs, may instead make lenders less willing to extend credit to lower-credit-quality borrowers, who are more likely to default. A change to servicer compensation models, especially for default servicing, could alleviate some of the concern about making these loans, albeit at higher costs to some borrowers.

Another key factor contributing to mortgage lender caution is uncertainty about the ultimate regulatory environment. Regulatory decisions will work individually and collectively to shape the cost and availability of mortgage credit in the future. So it is important for policymakers to think carefully about their individual decisions as well as how those decisions will work within the full constellation of mortgage regulation. Regulatory changes are being implemented to ensure that borrowers have more protections and lenders take into account the costs that imprudent mortgage lending can impose on communities, the financial system, and the economy. The accompanying effect, however, may be tighter credit standards, especially for lower-credit-quality borrowers, than prevailed during most of the past decade. It will be up to policymakers to find the right balance between consumer safety and financial stability, on the one hand, and availability and cost of credit, on the other.

The CFPB took an important step toward resolving regulatory uncertainty when it released a host of rules in January, including rules on ability-to-repay requirements, the definition of a qualified mortgage (QM), loan officer compensation, and servicing standards.

The Federal Reserve and other agencies are in the process of moving forward on proposed rulemakings that would implement revised regulatory capital requirements and the requirements for risk retention mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, which include an exemption for mortgages that meet the definition of qualified residential mortgages (QRMs). These and other prudential rules, taken together with the CFPB rules, will further shape the economics of mortgage lending. For example, bank capital rules will specify the amount of capital a bank must hold against certain mortgages. The risk retention rule will specify which loans in the QM universe qualify as QRM loans and therefore are not subject to risk retention when securitized. The risk retention rules will also define how securitizers must meet the risk retention requirement for mortgages that are not QRMs, and the cost associated with this requirement may affect mortgage costs. I won't comment today on the rulemakings that are still under way. However, I believe that, as we layer on additional requirements, it is important to think about the implications of the rules that have already been finalized. So I would like to share my assessment of some potential implications of the QM rule.

To provide a little context, the QM rule is part of a larger ability-to-repay rulemaking that requires lenders to make a reasonable and good faith determination that the borrower can repay the loan. Many of the rules' requirements for verification of income, assets, and other payment obligations are probably standard practice for lenders today. But having the rules in place, reinforced with increased legal risk for lenders that do not meet the rules' requirements, helps ensure that these practices continue, even as the economy improves and competition heats up. Borrowers who cannot afford their loans can sue the lender for violations of the ability-to-repay rules and claim monetary damages. If the original lender sells or securitizes the loan, the borrower can claim these damages at any time in a foreclosure action taken by the lender or any assignee. If the mortgage meets the QM standard, however, the lender receives some degree of protection from such potential lawsuits because it is presumed that the borrower had the ability to repay the loan.

Loans outside the QM box may become more costly for lenders and borrowers for at least three reasons. The first reason is the possible increase in foreclosure losses and litigation costs. Although the expected losses from this litigation are likely to be small, the full extent of the costs and of lenders' legal liability will become known only after the initial round of ability-to-repay suits are settled by the courts. The second reason is that mortgages that do not meet the QM definition also, by definition, will not meet the future QRM standard, and so

lenders will be required to retain some of the risk if these loans are securitized. This requirement may increase costs and limit the size of the market. The third reason is that investors may be wary of investing in securities collateralized by non-QM loans because it is difficult to gauge the risks. A borrower's ability to repay a loan that is not a QM may be based on "soft" information or on idiosyncratic factors that are difficult for the investor to observe or monitor. Investors may respond to this information asymmetry by requiring a higher risk premium or by refusing to purchase these securities altogether. For all of these reasons, the non-QM market could become small and illiquid, which would further increase the cost of these loans.

Loans eligible to be purchased, insured, or guaranteed by Fannie Mae, Freddie Mac, the Federal Housing Administration (FHA), the U.S. Department of Veterans Affairs, or the U.S. Department of Agriculture are automatically designated as QMs. This provision is slated to end no later than January 2021. As long as such loans remain an outsized share of mortgage originations, the QM rule may have less of an effect on the availability of mortgage credit.

As more private capital returns to the mortgage market, though, two aspects of the QM rule will have a more significant effect on access to credit: the debt-to-income (DTI) requirement and the provisions that affect interest rates, points, and fees. Turning first to DTI, under the QM definition, borrower payments on all debts and some recurring obligations – such as mortgages, credit card debt, student loans, auto loans, alimony, and child support – must be 43 percent or less of borrower income. To gauge the possible number of borrowers affected by this requirement, the Board staff looked at households in the Survey of Consumer Finances that purchased a home with mortgage credit in the two years preceding the survey. In the 2001, 2004, and 2010 waves of the survey, about 15 to 20 percent of these households had payments that exceeded 43 percent of income, although the share spiked to 40 percent in the 2007 survey.[11] The households with high DTIs tended to have lower income, fewer financial assets, and higher mortgage loan-to-value ratios than households with lower payment ratios. Of course, some of these households may be able to reduce their DTIs by purchasing a less expensive house or by delaying home purchase for the time it takes to pay off some existing debt. Nonetheless, the borrowers most affected by this aspect of the rule are likely also those who currently face tight access to credit, such as first-time or less-creditworthy borrowers.

The QM definition may also affect lenders' ability to charge for the risks of originating loans to borrowers who are more likely to default. For example, lenders might compensate for this risk by charging a higher interest rate on the loan. However, if lenders originate a QM with an annual percentage rate (APR) that is 150 basis points or more above the rate available to the highest-quality borrowers (known as a higher-priced loan), lenders receive less protection against lawsuits claiming violation of the ability-to-repay and QM rules. The extent to which this lower level of legal protection (the "rebuttable presumption of compliance") will affect lenders' willingness to originate such loans is still unclear.

Very few of these higher-priced loans are being originated currently, reflecting the weak mortgage demand and tight underwriting standards that I discussed earlier. The HMDA data suggest that only 4 percent of mortgages originated in 2011 carried APRs this high. However, as demand picks up and lending standards ease, the number of potentially higher-priced loans may increase. In 2006 – admittedly, not one of the best years for prudent

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[11] Homeowner DTI is measured at the time of the survey, not at the time of loan origination, and may understate the number of affected households if household finances improve after the purchase of a home. A recent study by CoreLogic suggests that 25 percent of mortgages originated in 2010 had DTIs greater than 43 percent. See Sam Khater (2013), "The Mortgage Market Impact of Qualified Mortgage Regulation (PDF)," *The MarketPulse*, vol. 2 (February), pp. 3–6.

mortgage underwriting in this country – about 25 percent of conventional purchase mortgage originations were considered higher priced.[12]

Lenders who prefer to price for risk through points and fees rather than increases in rates also face constraints in originating QMs. Points and fees on a QM loan may not exceed 3 percent of the loan amount, with higher caps available for loans smaller than $100,000. The "points and fees" definition has been expanded from its original definition in the Truth in Lending Act and now includes, for example, compensation paid to the loan originator in the form of a higher interest rate on the loan. Unfortunately, data on points and fees are limited, so it is difficult to determine how many potential borrowers might be affected by this requirement.

To be clear, many borrowers were overcharged or defrauded by lenders in the past decade, and these abuses were concentrated among the more vulnerable parts of the population. It is a positive development if new regulations make such abuses more difficult. Still, the costs associated with mortgage lending, especially to borrowers more likely to default, have increased, and if lenders cannot charge enough to recoup these costs, they may not be willing to make the loans at all. As a result, the QM-related incentives against charging higher interest rates, points, or fees will likely affect more loans than in the past and may, in turn, have a greater effect on credit availability for higher-risk borrowers.

To bring this discussion back to the effect on the housing market, I think the ability of newly formed households, which are more likely to have lower incomes or weaker credit scores, to access the mortgage market will make a big difference in the shape of the recovery. Economic improvement will cause household formation to increase, but if credit is hard to get, these will be rental rather than owner-occupied households. And without first-time homebuyers, the move-up market will be sluggish, new and existing home sales will be more subdued, and purchase mortgage volumes will return only slowly.

As I've noted, credit availability to newly formed households is being affected by a variety of economic, market, and regulatory factors. Some of these factors are likely to ease, whereas others will be more permanent. As a result, this housing recovery may look different than previous ones. In particular, tighter mortgage credit and sustained investor interest in single-family rental properties may result in a lower homeownership rate than in the past. However, the same regulations that could contribute to tighter mortgage credit should also ensure that more of those homeownership experiences succeed.

The role of monetary policy

I would like to conclude with a brief discussion of the role of monetary policy in the housing recovery. The fact that mortgage purchase originations have remained nearly flat at a time when interest rates have hit historic lows naturally raises the question of whether monetary policy is effective in stimulating the housing market and thereby the broader economy. As I will explain next, I believe that the answer is yes.

Monetary policy has clearly set the stage for a revival of the housing market. Record-low interest rates have sparked interest in homebuying. Monetary policy has contributed significantly to the recent improvement in the labor market and thereby begun to ease one of the main sources of weak housing demand. Monetary policy has likely also supported investor demand for purchasing houses, as the expected return on an investment in housing is more likely to exceed the low yields available on Treasury securities and other debt instruments. Households may be making the same calculus as investors.

[12] The data that would permit the calculation of this share for earlier years are not available.

The interest-rate-sensitive housing market is affected by all of the tools of monetary policy, but purchases of agency MBS have a more direct effect on the mortgage market. So, without delving deeply into monetary policy generally, I would like to make a few observations about the efficacy and costs of MBS purchases specifically. In doing so, I want to reiterate that these are my views and may not be in accord with those of my colleagues on the FOMC.

In many ways, purchases of MBS have the same downward effect on the general level of long-term interest rates as purchases of other longer-term securities. But, in addition, purchases of agency MBS reduce the spread between Treasury and MBS yields and thus, compared with purchases of Treasury securities, have somewhat larger effects on mortgage rates. This larger effect was especially true in the first round of purchases in 2009 when investor uncertainty about the degree of government support for agency MBS was quite high.[13] MBS purchases also influence MBS yields by affecting the cost of hedging the risk (known as convexity risk) that mortgages prepay more quickly when rates decline or more slowly when rates increase, because, unlike some mortgage market investors, the Federal Reserve does not hedge such risk.

Lower MBS yields result in lower mortgage rates, which can spur the economy through elevated home-purchase and refinancing activity. But this effect is not yet fully transmitted to the economy, as the difference between MBS yields and mortgage rates is still somewhat wide and, as I discussed earlier, tight credit has prevented many households from accessing the low rates. Any improvement in credit conditions would thus act to improve the efficacy of MBS purchases. Similarly, policies that constrain mortgage lending or increase its cost would reduce efficacy.

I think the additional impetus to housing from MBS purchases is appropriate for at least three reasons. First, the housing market has suffered extraordinary damage during the past few years. Second, even with the recent positive signs, housing investment has contributed far less to economic growth than in a typical recovery. And, third, even as terms and standards on other types of credit have eased, standards for mortgage credit remain quite tight.

While the purchase of agency MBS has some special efficacy in supporting housing markets, the peculiarities of the MBS market itself present some potential market functioning issues that bear monitoring. The MBS market is not as deep or as liquid as the Treasury market, and the total size of the market is not growing as quickly. As refinancing activity slows, the gross pace of new MBS issuance could slow as well, and Federal Reserve purchases at the current level could leave an even larger footprint in the secondary mortgage market. So it is entirely possible that it might be appropriate at some point to adjust the pace of MBS purchases in response to developments in primary or secondary mortgage markets. Within the context of the Committee's judgment about the appropriate overall level of monetary accommodation, such an adjustment could result in an increase or decrease in the pace of total asset purchases, or it could lead to a change in the composition of purchases.

Finally, the statement of exit strategy principles provided in the June 2011 FOMC minutes contemplates the sale of MBS once the Committee has begun to remove policy accommodation in order to return the System Open Market Account to an all-Treasury portfolio.[14] As our holdings of MBS become larger in both absolute terms and in relation to the overall supply of agency MBS outstanding, we could reach a point where market functioning concerns begin to outweigh the efficacy of such purchases. Or we might

[13] See, for example, Diana Hancock and Wayne Passmore (2011), "Did the Federal Reserve's MBS Purchase Program Lower Mortgage Rates?" *Journal of Monetary Economics,* vol. 58 (July), pp. 498–514.

[14] The System Open Market Account contains the Federal Reserve's holdings of U.S. Treasury and federal agency securities as well as selected other assets accumulated in the process of implementing monetary policy. For the exit strategy principles, see Board of Governors of the Federal Reserve System (2011), "Minutes of the Federal Open Market Committee, June 21–22, 2011," press release, July 12.

conclude that sales of MBS in volumes sufficient to meet the parameters of the exit strategy principles might create significant market disruptions. In either case, I think we should consider alternatives, such as holding the securities for longer or allowing them to roll off more gradually.

Conclusion

In conclusion, I am optimistic that the housing recovery will continue to take root and expand. While low mortgage rates are helping support the recovery, I believe it will be the pent-up demand of household formation unleashed by improving economic conditions that will provide real momentum. However, the strength of this momentum will be determined by credit availability to these new households, an availability that may be much slower to return as mortgage market participants assess the regulatory, market, and economic environment. I think that if such credit is not readily available, the housing recovery will still continue, but the mix of owner-occupied and rental housing and the level of mortgage originations might be quite different.

Thank you very much for your attention this afternoon. I would be happy to take any questions that you might have.