



“Monetary Policy and the Mortgage Market”

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It is a pleasure to be in New York to be part of this important discussion of recent developments in the residential mortgage market. I would like to offer special thanks to the staff at the New York Federal Reserve Bank, many of whom are still dealing with the consequences of Hurricane Sandy. My brother lives in Northern New Jersey and like so many others he experienced significant structural damage to his house. I know many at

this Bank and across the region have similar and, unfortunately, even more tragic stories resulting from the storm.

As awful as the storm was, it brought out the remarkable resilience of the Greater New York area. Much progress has been made, though there certainly remains much to be done for homeowners and businesses in affected areas.

This conference is focused on the spread between longer-term interest rates prevailing in the marketplace and the rates consumers pay on mortgages. This is an important topic, given that one of the more important monetary policy initiatives since short-term interest rates reached the zero lower bound has been the purchase of longer-term assets, including mortgage-backed securities (MBS). These policies seem to be having the desired effect as the Federal Reserve's two announcements of asset-purchase programs focused on MBS immediately generated significant declines in the yields on such securities (on MBS).

Of course I want to begin as I do all my talks with the reminder that the views I express today are my own, not necessarily those of my colleagues on the Board of Governors or the Federal Open Market Committee (the FOMC).

Just how these asset purchase programs actually influence the rates paid by homeowners is complicated by a variety of institutional factors. These include the market structure of mortgage lenders, the cyclical nature of refinance activity, changes in the credit profile of borrowers, changes in the role of government-sponsored enterprises (GSEs) in the mortgage market, and expectations of future interest rate changes that impact the likelihood of refinancing activity. The pass-through of Federal Reserve asset-purchase programs can be influenced by changes in any of these factors, and at times

changes in these factors can provide headwinds or tailwinds impacting the efficacy of the policies.

As a result, this is a particularly fruitful time for research in this area, with an eye to policy – as research presented today suggests.¹ And I hope the development of further research agendas around these issues will be one result of this conference.

Still, while we have much to learn about mortgage market developments, and how large-scale central bank asset purchases pass through to mortgage lending, I want to state very plainly that I believe the monetary policies designed to lower mortgage rates and stimulate more activity in interest-sensitive sectors have been effective, and are an important reason why the U.S. economy has performed better than many of our developed-country peers. Work being done at both the Boston and New York Reserve banks has shown that the pass-through of these Fed actions to consumers, appropriately measured, has been quite large. This type of empirical work is important as both an academic inquiry and a policy-relevant finding.

Consider that many businesses have reported putting their plans on hold given uncertainties around fiscal policy here and in Europe, yet *household* spending has continued and housing-related activity has picked up – despite the uncertain environment.

Given the tepid economic recovery, high unemployment, and subdued inflation – and the uncertainty around fiscal policy – I believe an accommodative monetary policy is quite appropriate. We want to see continued improvement in labor markets in the near term, and monetary policy should encourage faster economic growth to achieve that objective.

So in my view, a strong case can be made for the Federal Reserve continuing to purchase the current \$85 billion in longer-term securities a month – even after our so-called “Operation Twist” maturity-extension program² (a portion of those purchases) is completed at the end of 2012. This is a topic we will be discussing at the next FOMC meeting.³

Changes in the Composition of the Federal Reserve’s Balance Sheet

As a result of reaching the zero lower bound for short-term interest rates during the financial crisis, the Federal Reserve has engaged in more forward guidance for monetary policy, as well as undertaking large-scale asset purchases. Both are designed to flatten the yield curve, with the intention of encouraging additional longer-term borrowing – and indeed auto loan rates and mortgage rates are well below their averages through the business cycle. Today I will discuss the large-scale asset-purchase program.

Many have focused on the *size* of the Federal Reserve’s balance sheet, but it is equally important to consider the changes in the *composition* of the balance sheet. Particularly notable is the movement to longer-duration Treasury securities and to mortgage-backed securities. Keep in mind, however, that this change in the composition of assets has not increased the credit risk taken by the Federal Reserve, as open market operations are limited to assets with government guarantees.

Figure 1 shows the assets held by the Federal Reserve in December 2007 and then at the end of November 2012. The balance sheet changed from under \$1 trillion at the end of 2007 to close to \$3 trillion in 2012. Equally striking has been the change in the composition of Federal Reserve assets. At the end of 2007, nearly two-thirds of the

assets were shorter-term (maturing in 5 years or less) Treasury securities and almost one-half of the securities had a maturity of less than one year. By 2012, the composition had changed. As a result of Operation Twist, the balance sheet has become more heavily weighted toward long-duration Treasury securities. In addition, the balance sheet now also includes approximately \$880 billion in mortgage-backed securities maturing in more than 10 years.

Figure 2 provides the same information, but shows how the asset mix has changed over time. The initial expansion of the balance sheet was the result of our crisis-related emergency lending programs. As those emergency programs were wound down, asset purchases resulted in a significant expansion of long-duration Treasury and mortgage-backed securities. More recently, Operation Twist has resulted in our selling the shorter-term Treasury securities so that most of the securities on the balance sheet are mortgage-backed securities or Treasury securities with more than five years to maturity.

Considering a Reserves-Focused Monetary Policy

Some observers have advocated for maintaining a short-duration Treasury portfolio – arguing that monetary policy would be sufficiently expansionary by adding bank reserves, and thus there was no need to extend the duration of assets. In this view, since policy primarily works through bank reserves, purchasing assets that minimized risks – including interest-rate risk – to the Federal Reserve would be preferred. Short-term Treasury securities have no credit risk and also would carry minimal interest rate risk. Furthermore, in this view another benefit is that the balance sheet could quickly shrink by not replacing the short-term securities as they mature.

But in my view a reserves-focused monetary policy poses several problems. First, there is little impact on market interest rates, since exchanging Treasury bills that carry a low interest rate for bank reserves that carry a low interest rate will have little in the way of interest rate effects. Furthermore, the banking sector would be forced to hold more low-interest reserves at a time when capital is scarce and many banks are seeking to shrink rather than expand their own balance sheet. Thus, when interest rates are already at the zero lower bound, a short-maturity reserves-focused policy will not have much impact on inflation or employment.

In fact, **Figure 3** shows that a rapid increase in excess reserves in both the United States and Japan appears to have had little effect on inflation in both countries. While inflation in the United States has been close to 2 percent, Japan has continued to have a problem with *deflation*, despite significant increases in excess reserves.

Furthermore, the increase in bank reserves has not caused a large increase in bank lending, as shown in **Figure 4**. In Japan, real bank loans are still below where they were two decades ago. In the United States, despite some growth recently, real bank lending remains below levels attained prior to the recession. It is noteworthy that in Japan, policy has generally leaned toward a significant amount of shorter-duration securities – although more recently there have been greater purchases of longer-duration assets.

Spread-Focused Monetary Policy

In contrast to reserves-focused monetary policy, spread-focused monetary policy seeks to lower the cost of funds to households and firms by purchasing longer-duration assets. This policy, like the purchase of short-term Treasury securities, increases

reserves. However, the transmission mechanism is not primarily through excess reserves, but rather focuses on altering the cost of longer-term borrowing.

Central bank purchases of long-term Treasury securities flatten the yield curve and cause other medium- and long-term rates, including those on autos and houses, to decline. Similarly, the purchase of mortgage-backed securities causes rates to decline for MBS but also for other longer-duration assets. By reducing the borrowing cost of these purchases, demand for cars and houses should be stimulated. By altering interest rates faced by firms and households, as well as expanding the amount of reserves, the transmission of monetary policy is likely to be much more effective given that the economy has already reached the lower bound for short-term interest rates.

Admittedly, spread-focused monetary policy carries some risk for a country's monetary authority. Because the duration of assets is much longer, the balance sheet will not automatically shrink as rapidly when purchases are discontinued. Furthermore, if the plan is fully effective and quickly restores the economy to more normal financial conditions – including higher market interest rates – then the market value of the central bank's portfolio of low-yielding securities will inevitably decrease.

Potential Advantages of Large-Scale MBS Purchases

Both long-term Treasury securities and mortgage rates have continued to fall as the Federal Reserve has purchased longer-term securities,⁴ as **Figure 5** highlights.

A common way of describing the mechanism through which the central bank's purchase of longer-term Treasury securities and mortgage-backed securities affects interest rates is that such purchases “remove duration” from the marketplace – driving up

prices for assets with longer duration and thus pushing down yields, and resulting in a reduction in longer-term rates generally. This view takes MBS and Treasuries to be fairly close substitutes, and assumes that duration is the most important attribute that investors seek in choosing among investment alternatives. Since the mortgage-backed securities purchased have government guarantees, both Treasury securities and mortgage-backed securities do not have default risk.

Despite these similarities, however, there may be several reasons for a central bank to prefer large-scale purchases of mortgage-backed securities. Some of these reasons involve loosening the assumption that assets are close substitutes and that duration is the key channel through which central bank purchases have effects.

First, mortgage rates may be more responsive to a purchase of MBS than purchases of similar amounts of Treasury securities if mortgages are less-than-perfect substitutes for Treasuries, in part because investors have quite specific preferences for mortgage securities – what financial economists call “market segmentation.” Under market segmentation – which is consistent with the fact that the spread between Treasury and MBS securities varies over time rather than remaining constant – purchases of MBS may have a larger impact on mortgage rates than purchases of Treasury securities. Particularly at a time when housing prices are beginning to rise in many markets, making mortgage rates attractive may encourage potential home buyers to not delay their purchase decision.

Second, the ability to refinance mortgages with no prepayment penalty makes the securities quite different from Treasury securities in several respects – perhaps one of the key reasons that investors see them as imperfect substitutes. From the perspective of a

central bank purchasing the securities, many mortgages will be repaid early (before maturity) even if interest rates rise. Individuals move for a variety of reasons including changes in employment, a need to purchase a larger home, or a desire to downsize once children leave the home. As a result, while many people may take on a 30-year mortgage, most people will retire the mortgage well before its 30-year maturity.

To that end, **Figure 6** provides the percent of homeowners that have been in their homes for at least 10 or 20 years, in 2000 and in 2010. Over both horizons, roughly half the homeowners had been in their homes for at least 10 years, and roughly one-quarter had been in their homes for at least 20 years. Thus, even if rates were to rise, a significant percentage of mortgages would likely retire, providing a much shorter duration than for longer-term Treasury securities of a similar maturity.^{5,6}

However, the downside of being able to retire the mortgage without prepayment penalty is that the pass-through of lower mortgage costs from the investor to the homeowner can be less than one-for-one. Changes in the propensity to retire mortgages will influence the price of mortgages, and the extent to which a lower wholesale mortgage rate will be passed through to borrowers. This may be particularly true for high-rate mortgages that reflect the desire to avoid paying points or closing costs, or that reflect the credit worthiness of the borrower – since both may reflect a higher propensity to retire the mortgage should circumstances change.

Third, Treasury markets are highly liquid, so that the liquidity premium is still relatively small for seasoned issues. As a result, Treasury securities are often preferred during times of crises because investors can easily exit their positions should they need to raise funds. The mortgage-backed securities market is less liquid, particularly for

seasoned issues. Thus during times of stress, the functioning of the mortgage market may be impaired, providing an opportunity for a central bank purchase program to improve market functioning as well as change the relative price of securities by introducing a new large-scale buyer. The crisis events of 2008 provide an example.

Finally, there may be capacity constraints in only buying MBS securities or only buying Treasury securities. Because of potential capacity constraints and the fact that the degree of substitutability may be situational, a strong case can be made for purchasing *both* MBS and Treasury securities – with the proportions depending on the circumstances.

Thus if the purpose is to improve market functioning, or to provide focused stimulus to an interest-sensitive sector in order to stimulate aggregate demand, it may be that MBS purchases are preferable to Treasury security purchases.⁷

Also, even though the impact on mortgage markets may be particularly favorable at certain times, MBS purchases are likely to have an impact beyond the mortgage market. **Figure 7** shows that mortgage rates have fallen during large asset purchase programs, but **Figure 8** shows that corporate rates also have declined, and **Figure 9** shows that prices on assets such as stocks have generally risen during this time period, despite significant economic uncertainty.

Hence, given the effectiveness of this policy and the relatively high unemployment rate and inflation⁸ that is running below our 2 percent target, I fully support the policy decisions to provide stimulus through asset purchases – and I believe that including MBS purchases in the first and third asset-purchase programs have

contributed to a stronger economic outcome than we would have seen in the absence of these approaches.

While asset prices do seem to have been affected by the purchase programs, the ultimate goal is to stimulate further economic growth. Thus it is heartening that despite the economic uncertainties, households seem more confident in the economic future and are again purchasing long-term assets such as houses. As **Figure 10** shows, housing starts have been increasing, as have housing prices in many markets. Accommodative monetary policy has provided an important support to an economy still suffering from the impact of the financial crisis and the continued fiscal uncertainty here and abroad.

Concluding Observations

In summary and conclusion, I would note that many factors influence the pass-through of monetary policy to interest rates and output. This conference is highlighting many of the challenges to obtaining a full pass through to the mortgage rates faced by households. Nonetheless, long-term rates – including mortgage rates – do appear to have reacted to actions undertaken by the Fed.

I hope that as a result of the work of those at this conference, we can achieve an even better appreciation for additional steps that could be taken so that more households can benefit from stimulative monetary policy designed to encourage faster economic growth.

Thank you.

NOTES:

¹ See “The Rising Gap Between Primary and Secondary Mortgage Rates” by Andreas Fuster, Laurie Goodman, David Lucca, Laurel Madar, Linsey Molloy, and Paul Willen, at http://www.newyorkfed.org/research/conference/2012/mortgage/primsecsprd_frbny.pdf

² For more information see http://www.federalreserve.gov/faqs/money_15070.htm

³ A question is whether the Fed should continue to purchase \$45 billion when Operation Twist is completed at yearend, even though it would add to the size of the balance sheet since there would be no offsetting sales of shorter-term Treasuries (given that the Fed’s supply will be exhausted). In the absence of those purchases, the amount of long-duration securities that the Fed would be buying each month would decline to \$40 billion.

⁴ Of course, some of this decline is because the economy continued to disappoint.

⁵ In addition, the mortgages backing an MBS amortize, shortening the duration of MBS’s relative to same maturity Treasuries. So MBS’s should be expected to roll off the Fed’s balance sheet faster than Treasuries, both due to amortization and due to prepayments. Still, prepayments from refinancing activity would decline in a rising interest rate environment, thus increasing the MBS’s duration other things equal. Such an effect partially offsets the benefits of holding MBS’s deriving from amortization and from prepayments not related to refinancing activity.

⁶ Homeowners with low interest rates can rent out their homes if they are forced to move by a job change or other life event. Obviously, only a small fraction of owners are likely to do this, because of the challenges of managing a property after a move to a new area. But there are companies that will manage properties for absentee owners, and rising interest rates may dissuade some owners from moving in the first place.

⁷ A counterargument some may make is that Treasury purchases may have broader impacts on many somewhat similar securities — including mortgages.

⁸ Personal Consumption Expenditure or PCE.