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SPEECH

Reflections on the TALF and the Federal Reserve's Role as Liquidity Provider

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In my remarks today, I had intended to focus on the Federal Reserve's experience with the Term Asset-Backed Securities Loan Facility, or the TALF. This facility, which is scheduled to end later this month, was the last of the Federal Reserve's special liquidity programs, and those programs were then expected to enter a period of inactivity. It had therefore seemed to be a good time to reflect on our experiences with the TALF, and more broadly on the role of the central bank as a liquidity provider.

However, the context for this talk has shifted importantly with recent developments in financial markets. In particular, investors' concerns about sovereign risk in some European countries, with the attendant pressures on financial firms with exposures in those areas, have put renewed emphasis on liquidity provision and led the Federal Reserve and five foreign central banks to reestablish dollar liquidity swap lines.

Accordingly, I will begin today with some remarks on recent financial market developments and the role of the liquidity swap lines. I will then turn to the TALF program, providing a review of its performance and assessing the benefits that it provided. Both of these programs provide important insights into the role of the central bank as a provider of liquidity, leading to a few observations and to a few questions that I believe warrant further exploration in considering future policy actions.¹

Liquidity Swaps with Foreign Central Banks

The second half of 2009 and the early part of 2010 were marked by substantial improvements in financial markets, ranging from short-term funding to longer term risk assets. There was good reason for those improvements: Efforts by the government to stabilize markets and support financial institutions were successful, and a virtuous circle appeared to be under way in which increasing optimism about the economic outlook and improving conditions in financial markets fed upon one another. The gains in asset prices were dramatic, with broad equity indexes reversing most of the declines experienced in late-2008 and early 2009 and with some measures of short-term funding spreads returning to pre-crisis levels.

However, more recent developments have demonstrated that conditions in financial markets can change abruptly. These developments have been widely discussed at this point, and I will not go through them in detail, except to highlight the two broad themes in play.

First, investors have become concerned about the fiscal positions of some European countries, leading them to re-price sovereign risk for those countries and to question whether austerity measures and other supporting efforts will prove sufficient to restore market confidence. Second, investors have increasingly worried about the exposures of European financial institutions to these countries and to European growth prospects more broadly. These uncertainties have led to sharp declines in the share prices of those financial institutions and have affected the ability of many of them to fund themselves in short-term credit markets.

The successful resolution of these problems ultimately rests on European policy actions. Those actions will determine the degree of fiscal adjustment that is required over time, the amount of fiscal support and risk sharing among European countries that is appropriate, and the extent to which European financial institutions are supported. The Federal Reserve had only a limited and supportive role in the policy response, taking steps to allow the European Central Bank and other foreign central banks to respond more fully to emerging liquidity pressures.

The liquidity pressures that have emerged stem from the balance sheets of European financial institutions. Those institutions still hold large amounts of dollar-denominated assets and finance a sizable portion of those holdings in short-term dollar-denominated funding markets. In the presence of concerns about the status of these institutions, investors have become more reluctant to extend term funding to many of them, putting upward pressure on term funding rates and forcing the firms to change their funding patterns.

To help prevent strains in dollar funding markets from intensifying and spreading, and hence creating more widespread pressure on financial markets, the Federal Reserve established liquidity swap arrangements with the Bank of Canada, the Bank of England, the European Central Bank, the Swiss National Bank and the Bank of Japan. These arrangements provide foreign central banks with the capacity to deliver U.S. dollar funding to institutions in their jurisdictions. The credit is extended by the foreign central bank against the collateral that each accepts, and the interest generated from those transactions is returned to the Federal Reserve.

From the perspective of the Federal Reserve, the liquidity swap arrangements are safe. After all, the Federal Reserve is extending credit to the foreign central bank and not to the financial institutions that obtain dollar funding. The credit we extend to the foreign central bank is collateralized by foreign currency deposited with the Federal Reserve. Moreover, the operations do not involve any exchange rate risk for the Federal Reserve, because the swap transactions are unwound at the same exchange rate at which they are established.

There is currently only a very small amount of outstanding credit extended through the liquidity swap arrangements, in contrast to the dramatic usage that was observed during the financial crisis. The reason is that the circumstances surrounding the recent establishment of the swap lines differed from those in the middle of the financial crisis. During that earlier period, the need for dollar funding was more severe, and funding markets had become completely dysfunctional. The swaps were priced at rates that were well below those available in the market at that time, causing usage of the swap lines to rise dramatically to a peak of nearly \$600 billion in December 2008.

In the current circumstances, although the swaps have been priced in the same manner as during the crisis, this pricing is less advantageous relative to the funding rates available in the market, limiting the usage of the swap lines at this time. The swaps were essentially put in place in a preemptive manner, under the view that their presence would provide a backstop for dollar funding markets and help to bolster market confidence.

Reflections on the TALF

I am now going to switch gears and discuss the TALF, which is a liquidity program of a very different nature. Later this month, we will be holding our final subscription for the TALF. However, because no deals have been presented for review for the final subscription, we know that the extension of new credit under the TALF has effectively come to an end.

Although the structure of the TALF differed considerably from the other liquidity programs initiated by the Federal Reserve, its basic role was similar in many ways to the traditional central bank function of providing liquidity to the financial system and encouraging the flow of credit. In this case, however, the program was geared toward providing support for market-based credit intermediation, as opposed to the traditional banking sector. More specifically, the TALF was designed to support the market for securitized credit.

Overall, the TALF performed impressively in meeting that objective. The program contributed to a substantial improvement in conditions in the securitized credit market, facilitating an increase in the availability of credit to households and businesses. Moreover, it achieved this outcome with limited risk to the Federal Reserve's balance sheet.

Let me begin with some general background information on securitized credit markets. Securitization is an important funding source for bank and nonbank lenders. When a lender extends credit, it makes the decision of

whether to keep loans on its books or to securitize and sell them to other investors. If kept on the lender's books, the holdings have to be financed, either by borrowing or by using funds that could be deployed for other purposes, including making other loans. Thus, in many circumstances the lender finds it advantageous to sell assets through the securitization channel, allowing other investors to ultimately hold the assets and hence bear the risk. The amount of credit financed through securitization rivals that provided directly by banks. Indeed, even excluding the sizable securitization markets for mortgage credit, approximately \$2 trillion in loans to consumers, students, and businesses were securitized over the past decade.²

The securitization market became significantly disrupted during the financial crisis in 2008 and 2009 in all areas outside of conforming agency mortgage-backed securities. Liquidity for securitized products deteriorated, leading to an unprecedented widening of spreads. Issuance virtually ground to a halt, resulting in significant funding concerns for a variety of lenders who relied on securitization. These funding strains prompted some lenders to dramatically tighten underwriting standards, thus reducing overall credit to consumers and businesses. A prolonged shutdown of the securitization market could have compounded the credit crunch and increased the risk of an even more severe contraction of the economy than we experienced.

In response, the TALF was created to provide liquidity in the form of term loans to investors in the least risky part—the AAA tranches—of particular types of asset-backed securities, including those backed by consumer loans, student loans, small business loans, and commercial real estate loans. The hope was that, by providing loans directly to investors against asset-backed collateral, the TALF would help stabilize and improve the prices at which those securities could be sold, thus reducing lenders' costs of funds. With lenders' funding strains alleviated, the extension of credit to consumers and other borrowers could occur on more favorable terms.

While the TALF is essentially similar to other programs in its basic objective of providing liquidity and encouraging the extension of credit, it is worth highlighting that the TALF has several features that are not common in other liquidity facilities.

First, TALF loans are non-recourse, meaning that the borrower can put the collateral to the Federal Reserve rather than repay the loan if the collateral value falls sufficiently below the amount owed. The provision of non-recourse loans helped to encourage investor participation. In late 2008, when secondary market spreads had spiked and risk aversion was high, investors were uncertain as to when and how the market would stabilize. Non-recourse lending helped place a floor on investor losses, thus increasing market confidence broadly and facilitating the return of structured product investors.

Second, TALF loans have considerably longer maturities than the lending from the Federal Reserve's discount window and its other temporary liquidity facilities. The term of the loans, which were either three or five years, was intended to more closely match the maturity of the underlying securities, as needed to encourage investors to return to the market. In addition, loans with longer terms were viewed as more effective, as financing would extend well beyond the expected end of the recession.

The combination of these two elements—non-recourse loans and long maturities—was critical to the success of program. Without one or the other, investors would have had exposure to short-term swings in risk premiums in a time of extreme volatility, which would have likely limited participation and thus reduced the program's effectiveness.

A third notable feature of the TALF was that it was available to a wide set of market participants beyond the Federal Reserve's traditional bank counterparties. This feature reflected the program's broad focus on a financial market rather than a particular set of financial firms. Given the wide array of market participants, the program's broad reach was necessary to effectively support the entire market.

Let me turn to the program's achievements. By providing liquidity and a backstop to limit losses to investors, the TALF contributed importantly to the revival of securitized credit markets. Secondary spreads narrowed significantly, and volatility moderated. Moreover, the improvements in the secondary market helped re-start the new-issue market. Issuance of non-mortgage asset-backed securities jumped to \$35 billion in the first three months of TALF lending in 2009, after having slowed to less than \$1 billion per month in late 2008. During those initial months that the TALF was in operation, about half of the issuance in the market was financed by the facility, with this degree of support then gradually declining as market function improved.³

While each of the Federal Reserve's liquidity facilities was ultimately aimed at encouraging the flow of credit to the economy, the TALF may be distinctive in offering a more direct impact to the consumer. In fact, nearly all of the auto lenders supported by the TALF reported that the facility enabled them to offer more credit to consumers at lower rates. Lenders attributed this impact to the program's success in re-opening the securitization channel through which roughly half of consumer loans are financed.

The TALF also facilitated the first issuance of commercial mortgage-backed securities since mid-2008, which provided an important benchmark for pricing and helped establish the higher credit standards now seen in the market. These developments paved the way for subsequent commercial mortgage-backed deals to come to the market without TALF support.

The TALF accomplished these benefits while exposing the Federal Reserve to a limited amount of risk, as its design provides considerable protection. As I mentioned earlier, loans were made only against the highest rated asset-backed collateral.⁴ Moreover, TALF borrowers contributed significant capital in the form of a risk-based haircut, which means that the market value of collateral pledged exceeded the principal amount of the TALF loan. The prices of securities pledged to the facility have risen, giving the Federal Reserve an even larger cushion against loss, and no securities have been put to the facility to date. In addition, Treasury backstopped the facility by committing up to \$20 billion to absorb any losses associated with the loans before the Federal Reserve would be at risk. And lastly, the interest earned on our loans is accruing, with about \$400 million earned to date, and serves as a buffer against loss.

The risk to the Federal Reserve is also limited by the amount of balance sheet employed, which has been considerably less than envisioned at the height of the crisis. While \$200 billion was authorized for the program, only approximately \$70 billion in total was lent. Moreover, because loans were paid back as private credit markets improved, the maximum amount of credit extended under the program was about \$50 billion. Today, there is about \$44 billion of TALF credit outstanding.

It is worth considering why the program was able to achieve such significant market improvements with a limited amount of balance sheet. The success of the TALF may reflect that it targeted a market under severe stress, one characterized by extreme liquidity premiums that had caused asset prices to become detached from the underlying credit quality of the securities. Under those conditions, our involvement was able to have a substantial effect, in part by pushing those markets back toward more normal functioning and pricing.

To be sure, improvements in funding markets broadly and in the macroeconomic outlook during the course of the program clearly influenced the recovery of securitized credit markets. That said, the TALF lending mechanism has been widely credited with helping to jumpstart those markets.

As markets have improved and the liquidity premium on securitized credit has shrunk, the TALF has become a less appealing source of funding. Indeed, borrowers have been prepaying their loans as spreads have narrowed below the TALF lending rate. At this point, those asset-backed securities markets that were supported by TALF appear to be standing on their own. Going forward, the securitized credit markets will be shaped importantly by regulatory efforts, with some potential changes such as risk retention and transparency requirements still undecided.

Defining the Central Bank's Role as Liquidity Provider

Let me now turn to the broader issue of the appropriate role of the central bank as a provider of liquidity during periods of market strain. In effect, both of the programs I have just discussed expand the reach of the Federal Reserve's liquidity policies to a broader set of firms than those with access to our traditional discount window program. Moreover, the Federal Reserve launched a number of other facilities during the financial crisis that reached other types of firms and markets.

The scope and process for launching similar liquidity facilities in the future will be guided by the legislative efforts currently under way. Still, it is important for the Federal Reserve to reflect on what we have learned through our experiences so that we may better judge the actions that should be taken in the future within that legislative structure.

The liquidity programs that were launched by the Federal Reserve shared some common characteristics. In all cases, the programs provided credit in stressed markets, and for those facilities that offered credit at a

predetermined interest rate, the rate was set at a penalty relative to normal market functioning. This approach yields several benefits.

First, by acting in markets that are under stress, such programs have the scope to produce substantial improvements in market conditions. If they are seen as credible backstops, these programs can increase confidence and move financial conditions back toward normal levels. This feature was discussed earlier in the context of the TALF, in terms of the sizable market impact relative to the amount of risk taken.

Second, liquidity programs designed in this manner have a good chance of generating positive income for the central bank. The reason is that financing is offered at a time when market risk premiums are very high. The central bank therefore captures a high expected return relative to the actual risk it is assuming, especially when the lending is adequately collateralized to limit such risk. Indeed, the Federal Reserve is likely to make substantial returns from the liquidity facilities launched during the financial crisis.⁵ Achieving these returns, of course, was not an objective of the programs, but it does suggest that the Federal Reserve was prudent in the way in which it established these programs.

Third, this approach gives the facilities a self-liquidating property. Loan rates are set at penalty levels that are not attractive in normally functioning markets. Given the scarcity of liquidity and the extreme movements of risk premiums during a crisis, the penalty rates are readily accepted by market participants in those circumstances. However, as the market gains confidence and returns to normal functioning, users of the facility have an incentive to stop borrowing from the central bank and to pursue better rates in private funding markets. In essence, pricing at penalty rates incorporates an exit strategy into the design of the programs.

But while the various liquidity programs shared these features, they differed in other dimensions, and it is these differences that prompt questions about the future scope and design of liquidity facilities.

A primary question is whether liquidity support during times of stress should be offered only to banks or to a wider set of financial institutions. We have a financial system in the United States that is heavily dependent on nonbank institutions in the extension of credit to firms and households. Indeed, as noted earlier, the amount of credit provided by the securitization market has rivaled that provided by banks. Moreover, nonbank firms in many cases are just as vulnerable to liquidity pressures and run-like dynamics as are banks. Accordingly, there may be benefits to having the central bank extend credit to both banks and nonbank financial intermediaries during periods of financial stress. The experience with the TALF suggests that nonbank lending efforts can be successful at restoring market functioning and the flow of credit to firms and households.

A second issue is the extent to which the Federal Reserve should be flexible in setting the structure of its liquidity programs to meet the needs of the market. As noted earlier, the TALF did this in several ways, including its extension of the duration of the loans beyond the short-term nature of most other liquidity facilities. That decision clearly improved the appeal of the program, suggesting that having some flexibility in structure can be beneficial. However, policymakers will have to decide the appropriate degree of flexibility to exercise in the future.

Of course, both of those dimensions—having a wide range of counterparties and using a more flexible lending structure—have the potential to increase risk to the central bank. The TALF was able to offer credit on these terms without compromising the safety of the Federal Reserve's balance sheet by requiring sufficient collateralization of the loans and by relying on the loss buffer provided by the Treasury. Without the Treasury's contribution to the program, it would have been more challenging to design a program that was both appealing to the markets and safe for the Federal Reserve. Thus, a third open issue for future policies is determining the circumstances under which such cooperation between the monetary and fiscal authorities is appropriate.

A final issue is that, if the central bank provides a back-up source of liquidity to the markets, whether through its traditional discount window function or these other facilities, it should consider the effects on the risk taking behavior of market participants. Efforts should be taken to ensure that expectations of the availability of Federal Reserve lending facilities do not lead to excessive risk taking on the part of financial institutions. In the case of banking institutions, this moral hazard is offset by appropriate supervision and regulation. Measures may be warranted for nonbank financial institutions if they expect Federal Reserve credit to be made available to them during times of stress.

Conclusion

Overall, recent financial market developments serve as a reminder that the central bank's role as a liquidity provider can be critical during periods of financial stress.

In this speech, I discussed the reintroduction of the liquidity swap lines with foreign central banks and reviewed our experience involving the TALF—two programs that provide dollar liquidity to a broad set of counterparties. Our experiences with these two programs, and with the other facilities launched during the financial crisis, suggest that liquidity programs can be quite effective at restoring market functioning and facilitating the flow of credit to households and businesses. However, because these facilities differ from traditional discount window activity, they raise questions about the appropriate scope and structure of the Federal Reserve's role as liquidity provider.

We should continue to evaluate our experience with these facilities and with other liquidity programs to more clearly define an appropriate framework for providing liquidity to the markets in the future.

¹The views and opinions expressed are mine alone and do not necessarily represent the views of the Federal Open Market Committee or the Federal Reserve System.

²Source: Morgan Markets. Note: This includes securitizations of auto loans and leases, credit card account balances, student loans, dealer floorplan loans, and business equipment loans and leases.

³Sources: Morgan Markets; Bloomberg L.P.; Federal Reserve Bank of New York.

⁴Importantly, the Federal Reserve performed due diligence on each of the bonds pledged to the facility as a part of a detailed risk assessment process.

⁵The interest income and fees that accrue to the Federal Reserve from these facilities are ultimately remitted to the U.S. Treasury.