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Nonbank Financial Intermediation, Financial Stability, and the Road Forward

Remarks by

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at

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It is an honor to speak at the Federal Reserve Bank of Atlanta's 20th Financial Markets Conference, and I am grateful to President Lockhart and the organizers for inviting me to do so.¹ This evening I would like to take stock of progress on financial reforms in the nonbank financial sector and highlight some principles for approaching prudential regulation of this sector to further strengthen financial stability.

The nonbank sector includes firms with diverse business models and practices, many of which differ greatly from those of banks. Even so, nonbank firms and activities can pose the same key vulnerabilities as banks, including high leverage, excessive maturity transformation, and complexity, all of which can lead to financial instability. The reforms undertaken to date reflect both the differences and similarities between the nonbank and bank sectors.

While there has been progress on the financial reform front, we should not be complacent about the stability of the financial system. Regulation often creates incentives for activity to move outside the regulatory perimeter, and market participants respond to incentives. Thus we should expect that further reforms will certainly be needed down the road.

The Nonbank Sector Was an Important Source of Vulnerability in the Crisis

As you know, the nonbank financial sector in the United States is larger, and plays a more important role, than it does in most other countries. In recent years, about two-thirds of nonfinancial credit market debt has been held by nonbanks, which includes market-based funding by securitization vehicles and mutual funds as well as by institutions such as insurance companies and finance companies. Nonbanks are involved

¹ The views expressed are my own and not necessarily those of others at the Board, on the Federal Open Market Committee, or in the Federal Reserve System.

in many activities within the financial system as well, such as securities lending. The nonbank sector has produced material benefits: increased market liquidity, greater diversity of funding sources, and--it is often claimed--a more efficient allocation of risk to investors. However, threats to the stability of the overall financial system have also increased, as was evident in the recent financial crisis.

It is now eight years since major cracks in the financial system that led to the Global Financial Crisis first appeared in nonbank entities and activities. While the causes of the crisis were complex, I will start by telling part of the tale of how nonbank distress was transmitted to the broader financial system. The story begins with nonbank mortgage companies, which were important originators of subprime and prime mortgage loans, typically securitizing them or selling them to investment banks to be securitized. Rumors of troubles among these firms were circulating in 2006 as house prices started to decline, and a large firm filed for bankruptcy in December 2006.² Then New Century, at one point the second largest subprime lender, filed for bankruptcy in April 2007 because its funding had disappeared as a result of fears about losses. Many more followed in 2007 and 2008. Replacement of nonbank lenders' capacity to process mortgage applications and to fund mortgage loans occurred only partially and slowly.

Next step: The distress in mortgage markets was amplified in the broader financial system in several ways, including something similar to a bank run but which instead occurred on asset-backed commercial paper (ABCP) vehicles. These vehicles invested in private-label mortgage securitizations and other long-term debt securities but were funded with short-term commercial paper. Buyers of the commercial paper issued

² Ownit Mortgage Solutions, one of the top 20 subprime mortgage originators nationally, filed for bankruptcy on December 28, 2006. Virtually all such firms have since either failed or been acquired.

by the ABCP vehicles withdrew funding starting in the late summer of 2007. The volume of assets in the vehicles was large, about \$700 billion, and after the run, the ability of the financial system to fund credit through many types of asset-backed securities became constrained.³ The runs on ABCP also put considerable pressure on the banking system because of the liquidity backstops that banks had provided to the vehicles.⁴

Some of the guarantors also insured mortgage-backed securities, and when doubts arose about the ability of the guarantors to pay claims on mortgage-backed securities, the credibility of their guarantees of municipal securities was also reduced. Municipalities then found it more difficult and costly to issue debt even though their activities were otherwise unrelated to subprime mortgages.⁵

Next, the crisis spread to nonbank finance companies, which made a substantial fraction of consumer loans in the United States--for example, auto and credit card loans. As the crisis went on, the ability of such lenders to fund themselves through securitizations and commercial paper became increasingly constrained. For a period after the failure of Lehman Brothers, many investors were unwilling to buy commercial paper and asset-backed securities at any price, and, as a result, finance companies faced tight

³ See Daniel Covitz, Nellie Liang, and Gustavo Suarez (2013), "The Evolution of a Financial Crisis: Collapse of the Asset-Backed Commercial Paper Market," *Journal of Finance*, vol. 68 (June), pp. 815-48.

⁴ Runs on the repurchase agreement (repo) funding of asset-backed securities were also troublesome for both banks and nonbanks. See Gary Gorton and Andrew Metrick (2012), "Securitized Banking and the Run on Repo," *Journal of Financial Economics*, vol. 104 (June), pp. 425-51.

⁵ Moreover, state and municipal borrowers had been issuing long-term debt while paying short-term interest rates by using structures such as variable-rate demand notes (VRDNs), which gave holders the right to put the securities back to liquidity providers on short notice. When the money market fund investors that held VRDNs became worried about their ability to get their money out at short notice, the volume of putbacks rose, and these developments ultimately led to increased payment obligations for some municipalities.

funding constraints. In turn, the finance companies cut credit availability, which sharply depressed purchases of consumer durables, including automobiles.

These examples highlight five lessons. One is that the recent crisis first manifested itself in the nonbank sector and was worse for the nonbank sector than for banks. Almost all the examples of financial distress mentioned so far occurred before stress in the commercial banking system became acute, and in most cases well before. For example, only three commercial banks failed in the United States in 2007, and commercial bank distress did not peak until the end of 2008 and later.

A second lesson is that nonbank distress can harm the real economy. Mortgages, auto loans, and credit through securities issuance became harder to obtain. Some of the slack was taken up by commercial banks, but credit contracted sharply, and millions of Americans suffered.

Third lesson: Many of the problems at nonbanks were similar to the problems that plagued banks. These problems included insolvency, illiquidity (by which I mean the loss of access to funding even if the nonbank was solvent), and a general loss of confidence, in which counterparties of all kinds became reluctant to deal with some nonbanks.

Fourth lesson: The Federal Deposit Insurance Corporation (FDIC) can handle a bank insolvency by keeping the bank's functions running while it pays off depositors and finds buyers for the bank's assets. The Federal Reserve, as a central bank, can address bank illiquidity using its lender-of-last-resort authority. Bank supervisory agencies can address a loss of confidence by actions such as the stress tests conducted in the spring of 2009. However the lack of such powers for nonbanks made it much more difficult for the

authorities to address the distress of nonbanks and its influence on the financial system. Before the crisis, the authorities had few policy levers to provide liquidity or to resolve failures of nonbanks in a way that would avoid serious spillovers. Liquidity was ultimately provided to some nonbank markets, such as the markets for securities backed by consumer and business assets, but the facilities were far from simple and took substantial time to create and implement.⁶

Finally, nonbank distress can transmit to the banking sector through many channels, such as counterparty relationships, disruptions in funding markets, and knock-on effects of asset fire sales. The failure of Lehman provides a good example. It was a nonbank, and its failure both imposed direct losses on its many types of counterparties and disrupted many markets with negative effects on banks.

Principles for Prudential Regulation of Nonbank Intermediaries and Activities

It is widely understood that any regulation of nonbanks should fit their activities and the vulnerabilities they pose, which implies that not every nonbank financial institution or activity necessarily needs to be regulated. The two key principles for prudential regulation of nonbanks when it is warranted, are simple: First, we should be attentive to solvency and liquidity; second, we should recognize that the financial system will change over time, and thus close monitoring and analysis of the system are essential.

Insolvency and illiquidity are classic financial stability concerns. And as mentioned, they were common themes of the distress at nonbanks that we observed

⁶ See Gorton and Metrick, "Securitized Banking," in note 4, op.cit.; Jeremy Stein (2012), "Monetary Policy as Financial Stability Regulation," *Quarterly Journal of Economics*, Vol. 127, pp. 57–95; Robin Greenwood, Samuel Hanson, and Jeremy Stein (2014), "A Comparative-Advantage Approach to Government Debt Maturity," *Journal of Finance*, vol. 65, pp. 993–1028.

during the crisis. Thus, we will not go far wrong if we begin by considering how to promote solvency and liquidity, taking into account the unique structures and activities of each type of nonbank.

Liquidity challenges vary across nonbank firms and activities. In some, the issue is whether a firm can fund itself in a distressed situation. For example, a broker-dealer that relies heavily on short-term wholesale funding may find its funding evaporating at the first sign of trouble--a situation that could force the sale of assets at fire sale prices. One way to mitigate such problems is by having direct restrictions on the structure of liabilities, such as on their duration or on the use of wholesale funding. Analogously with banks, one could also imagine requiring some nonbanks to maintain buffers of highly liquid assets that are sized according to the risk that their liabilities will run off quickly in a stress situation.

In other nonbanks, withdrawable liabilities are part of the structure of the entity or activity, and what varies is the degree of mismatch between the liquidity of assets and liabilities. For example, some open-ended mutual funds offer daily withdrawal privileges but invest in assets that take longer to sell and settle, giving investors an incentive to withdraw quickly when distress arises. The fire sales of assets that may result can depress asset prices and increase volatility, with knock-on effects on other institutions and markets. Concerns have grown about this liquidity mismatch as the aggregate value of less liquid assets in such funds has grown. In part because of this concern, in a December *Federal Register* notice last year, the Financial Stability Oversight Council (FSOC) requested public comment on potential systemic risks posed by asset manager activities and products.

To promote solvency, one could impose ratio-type capital requirements, such as leverage ratio requirements or risk-based requirements. An alternative is to require that firms perform regular stress tests to demonstrate that they can remain solvent and continue to lend even under stress. In the Fed's case, it has chosen to impose all of these requirements on banks, but these requirements cannot simply be applied, as is, to nonbanks.

It is well known that solvency and liquidity can be difficult to separate during stress periods because fears about solvency, even if unfounded, can prompt a run. Thus, one could also imagine promoting both solvency and liquidity at some nonbanks by imposing restrictions on their structure or activities in ways that reduce the likelihood of runs. An example of this is recent changes by the Securities and Exchange Commission (SEC) in regulations for prime money market mutual funds. Starting in 2016, prime institutional money funds will be required to publish a floating net asset value rather than a stable value of \$1 per unit. Stable-value funds, as we saw during the crisis, can be vulnerable to an unexpected "break the buck" event that leads to a run. Under the new rules, funds can also impose limitations on withdrawals of liabilities and can impose liability redemption fees. The SEC considered requiring money market funds to hold some capital but chose not to do so. Only time will tell whether the adopted reforms have the intended run-damping effects, but if they do, capital will be much less necessary.

Some may raise concerns that increased regulation of nonbanks will only increase moral hazard and increase risk to the system on net. But moral hazard may already be present. Over the past 20 years and more, governments have sometimes acted to contain damage from distress at nonbanks because of the economic damage that might have

resulted from a failure to act. We should always be mindful of moral hazard incentives and seek to contain them, but well-designed regulation might reduce rather than increase moral hazard. In the banking sector, bank regulators have focused on improving resolution planning at banks and enhancing the ability of the FDIC to manage the resolution of a systemically important firm in a way that mitigates spillovers to the economy. For example, proposals are now under consideration to require the largest and most interconnected banks to maintain a buffer of debt that could be converted to equity or that could otherwise absorb losses upon failure. Such proposals could be viewed as a form of solvency regulation and this form of loss-absorbing capital might be appropriate for some of the largest and most interconnected nonbanks as well.

In addition, nonbank intermediation often involves complex chains of activity encompassing many entities and markets. Such chains tend to increase the web of interconnections in the financial system that, in some circumstances, can increase the likelihood or severity of systemic stress. For example, movements in collateral values can trigger margin calls and fire sales of assets, and thus activities that depend on market-valued collateral can be vulnerable. The Financial Stability Board is currently considering reforms for margins on securities financing transactions. Other interconnections involve exposures to counterparty default. The new regulatory regime for derivatives, which I will discuss in a moment, seeks to mitigate counterparty risk.

It is often said that stronger regulation of the banking sector will cause activity to move outside the perimeter of regulation. This evolution also could lead to greater complexity, such as longer chains of interconnections, which makes it more difficult for market participants to understand the risks arising from their exposures. Examples of

migration that have already occurred include the movement of many loans made to large corporations from banks to collateralized loan obligations, the securitization of many credit card receivables, and the securitization of mortgages. This kind of migration makes close monitoring by regulators particularly important. Authorities should monitor for changes that may arise in response to the new regulations or to changing economic and financial conditions. They will need information to do so, but for many nonbank entities, the flow of information is currently nonexistent or very limited and informal.

Another force for evolution in the nonbank sector is the demand for safe money-like assets. Some argue that this demand for private money creation prompted the growth in “shadow banking” prior to the crisis.⁷ Indeed, whenever shortages develop, we might expect the nonbank financial system to create assets that appear safe but that could in certain circumstances pose systemic risks.

Progress to Date

We have seen some progress in improving the regulation of the nonbank financial sector. Let me mention four areas of reform. The first is the Dodd-Frank Act’s creation of the FSOC and the power it was given to designate individual nonbank firms as systemically important and thus subject to prudential regulation by the Federal Reserve. The FSOC has designated four nonbank firms as systemically important.⁸ The FSOC is also a useful venue for regulators to collaborate on identifying emerging threats. And it

⁷ See Gorton and Metrick, “Securitized Banking,” in note 4; Samuel G. Hanson, Andrei Shleifer, Jeremy C. Stein, and Robert W. Vishny (forthcoming), “Banks and Patient Fixed-Income Investors,” *Journal of Financial Economics*; and Zoltan Pozsar, Tobias Adrian, Adam Ashcraft, and Hayley Boesky (2010), “Shadow Banking,” Staff Report 458 (New York: Federal Reserve Bank of New York, July; revised February 2012), www.newyorkfed.org/research/staff_reports/sr458.html.

⁸ The four firms designated by the FSOC as systemically important are American International Group, Inc.; Prudential Financial, Inc.; General Electric Capital Corporation, Inc.; and MetLife, Inc.

is an important mechanism through which agencies can cooperate in responding to practices or firms that migrate outside of traditional regulatory perimeters.

Second: securitization reform. A regulation that is now in the process of implementation requires securitizers to retain some of the risk of the securities that they create. That should incentivize them to structure securitizations in ways that better protect the holders of senior tranches from credit risk, although qualifying residential mortgages are exempt from the requirement.

A third area is derivative reforms. To reduce complexity and pro-cyclicality, these reforms include moving standardized derivatives to central counterparties (CCPs) and requiring initial and variation margin for noncleared derivatives. Relatedly, as CCPs have gained prominence, regulators have become more focused on and concerned with their resilience, recovery, and resolution. In addition, regulators are working to improve the quality and standardization of data reported to swap data repositories, and are actively participating in international efforts to develop uniform identification standards to facilitate the aggregation of such data.⁹ A key issue is to understand how and to what extent market participants who use derivatives are exposed to each other.

Besides the new money market mutual fund rules that I have already mentioned, a fourth example is additional data collection on specific holdings of money funds, which has enhanced stability by providing investors with more information to better evaluate risks. In addition, the Dodd-Frank Act mandated the establishment of the Office of Financial Research in order to help promote financial stability through the measurement

⁹ Due to the critical nature of overseas derivatives data and the need to standardize these data for regulatory analysis, the CFTC and the OFR in 2014 formed a partnership to standardize and enhance the quality of the data collected by CFTC-registered swap data repositories. Important work on standardizing derivatives data is also under way at the international level.

and analysis of risks, the conduct of essential research, and the collection and standardization of financial data. Data collection has begun for hedge funds and progress is being made in collecting data on repurchase agreements and securities lending. Nevertheless, some nonbank firms and activities – including concerning the volume and uses of derivatives – are still opaque.

To sum up, much has been done to strengthen prudential regulation and supervision of the nonbank financial system, but more will need to be done. We must remain vigilant for changes in the system that increase systemic risk, and we should make appropriate changes to regulation and the structure of regulation as necessary. Recent regulatory changes, including a macroprudential approach on the part of U.S. regulators, should help us to do that.¹⁰ But we should never forget the International Monetary Fund's all-purpose warning whenever it has been tempted to give an economy a clean bill of health: Complacency must be avoided.

¹⁰ This change is reflected in the setting up of the LISCC – the Large Institution Supervision Coordinating Committee.