Lessons from lender of last resort actions during the crisis: the Federal Reserve experience

William Nelson[1]

Thank you for this opportunity to address this workshop on rethinking the central bank's role as a lender of last resort. During the financial crisis we accumulated a vast amount of experience as a lender of last resort, and it is important to now take time to reflect on and discuss what we learned. Today I'll start by briefly reviewing the specifics of the Federal Reserve's authority to act as lender of last resort and its actions during the crisis and then I will discuss the lessons that I drew from our experience. Importantly, these are my perspectives on what we learned and do not necessarily reflect the views of the officials or staff of the Federal Reserve. My remarks draw in part on my paper with Dietrich Domanski and Richhild Moessner that was distributed as a background document for the meeting.[2]

I'll assume that we share a common view of what happened in the crisis and a common knowledge of how the Federal Reserve responded. My premise for these remarks, and my personal assessment, is that the Federal Reserve's lending during the crisis was necessary, effective and acceptably safe. The conclusion that the lending was acceptably safe is based in part on the observation that, despite making thousands of loans during a financial crisis that developed in several phases, each worse than the preceding phase, all Federal Reserve loans were repaid on time with interest. When preparing my remarks, I thought about whether, with hindsight, I would have had the Federal Reserve do anything differently. While a complete answer would more than take up my time, the short answer is "no, not really."

Background

The Federal Reserve's actions as a lender of last resort during the crisis were based on three different authorities. First, the Federal Reserve can buy, either outright or in a repurchase agreement, Treasury and Agency securities and foreign exchange. Using this authority, the FOMC conducts normal monetary policy transactions. Second, the Federal Reserve has the authority to lend to depository institutions (DIs), including commercial banks, against sufficient collateral. Using this authority, the Federal Reserve provides discount window loans through a standing facility in normal and crisis times against a very broad range of collateral including loans and securities. Lastly, in an emergency, the Federal Reserve has the authority to lend to anyone, not just DIs, against sufficient collateral, although it had not used its emergency authority since the 1930s. After the crisis, the Dodd-Frank Act required

1 The views expressed are my own and not necessarily those of the officials or staff of the Board of Governors of the Federal Reserve System.

Deputy Director, Division of Monetary Affairs, Board of Governors of the Federal Reserve System.

2 D Domanski, R Moessner and W Nelson, "Central banks as lender of last resort: experiences during the 2007–10 crisis and lessons for the future", in this volume.

that the Federal Reserve only provide emergency loans through broad-based facilities and never to help an individual troubled firm. It is also important to note that there are legal limits on the ability of banks to lend to affiliates within their holding company, so that the Federal Reserve cannot, for example, lend to a broker-dealer subsidiary of a bank holding company indirectly by providing a loan to the bank subsidiary.

Using these legal authorities, Federal Reserve lending during the crisis proceeded in five phases. Beginning in August 2007, the Federal Reserve executed a traditional LOLR response to a crisis and eased the terms at the discount window, its standing loan facility. Beginning in December 2007, the Federal Reserve took expanded action using its non-emergency authority by auctioning discount window credit and establishing currency swap lines with other central banks. In March 2008, the Federal Reserve used its emergency authority for the first time since the Great Depression, providing loans to facilitate the acquisition of Bear Stearns and establishing a standing loan facility and a securities swap facility for broker-dealers to backstop the triparty repo market. In September 2008, when Lehman failed, the Federal Reserve provided loans to support individual troubled firms and to provide liquidity support to money markets and the shadow banking system. And in the final phase, the facilities were closed as financial markets normalised and the loans were repaid.

Lesson 1: LOLR is unpopular

The first lesson I've taken from the Federal Reserve experience during the crisis is that lender of last resort actions are deeply unpopular. Regardless of the net social benefit, shielding banks from the consequences of their actions is unfair, especially at a time of widespread suffering caused in part by the banks' actions. In addition, lending to new counterparties in novel ways inevitably involves drawing lines, so there is always an element of credit allocation, of picking winners and losers. Lastly, the public does not like an independent agency making consequential spending decisions and expects, at a minimum, extensive oversight.

The consequences of the LOLR's unpopularity are not just that the central bank becomes disliked. The public backlash puts at risk central bank independence and effectiveness. For example, the backlash resulted in new disclosure requirements for all the loans made by the Federal Reserve, which conflicts with the need to mitigate the stigma associated with borrowing from the discount window. Risk-sharing arrangements with fiscal authority addressed some of the concerns around the Federal Reserve making credit allocation decisions and taking credit risk, and it expanded the range of lending options that were available. But working on lending facilities jointly with Treasury changed the nature of the relationship between the central bank and the fiscal authority, which also put at risk central bank independence.

Lesson 2: The LOLR cannot solve everything

The second lesson is that there are a number of problems that cannot be solved by the central bank providing lender of last resort support. First, although the classic problem to be solved by a LOLR lending is a bank run, lending against collateral may not be able to halt a run when concerns about the riskiness of the bank's assets are the reason the investors are withdrawing funds. The LOLR lending concentrates the risk on the remaining investors, potentially accelerating the run. Such concerns put significant limits on the Federal Reserve's ability to halt or even slow a run on money market mutual funds without taking on risk. Second, because of the stigma associated with borrowing from the Federal Reserve, banks do not view the discount window to be a viable backstop source of funding. As a result, easing terms on primary credit at the outset of the crisis did not lead banks to become more willing to make term interbank loans. Moreover, the stigma makes the banks more reluctant to act as intermediaries to provide liquidity to counterparties of the banks, which was needed at times during the crisis. As a result of these limitations, responding effectively to the financial crisis required the involvement of the entire government – the Treasury's guarantee of money funds, the stress tests and capital injections in the banks, and the FDIC's guarantees of all bank liabilities.

Lesson 3: Mixed implications for who should normally have access to the discount window

In the United States, depository institutions have regular access to the discount window while other bank-like entities, including broker-dealers and money funds, do not. Access to the discount window was extended beyond Federal Reserve member banks to all depository institutions as part of the Monetary Control Act of 1980, when reserve requirements were extended to that broader set of institutions. With reserve requirements now less onerous given the payment of interest on reserves, it is unclear why DIs should have access to the discount window while other regulated bank-like entities do not. Similarly, experiences during the crisis provide no clear evidence on the appropriate set of institutions to have regular access.

Some of those experiences suggest that the current framework, in which only depository institutions have regular access, is reasonable. The narrower framework required the Federal Reserve to design a number of different mechanisms to get credit to different sectors of the financial system using our emergency authority, but creating those bespoke mechanisms worked fairly well. Moreover, markets generally reacted favourably when new facilities were created. And one advantage of a narrower framework is that it maintains constructive ambiguity and helps limit, at least to some extent, the moral hazard associated with providing regular access to a wider set of counterparties.

Other experiences suggest a wider set of counterparties might be desirable. First, the unpopularity of the Federal Reserve's LOLR lending appeared to be initially associated with new types of lending, particularly lending to support individual institutions, and only then broadened out to all lending. And second, while the perfect repayment experience during the crisis loans owes importantly to the conservatism and quality of the lending facilities, I suspect it also owes something to luck. It took several years to design the normal lending framework, which is fairly simple. During the crisis, we designed complex lending frameworks in a few months, and designing things so quickly runs the risk of making mistakes. If we had lost money on our lending, or even just if some of the loans had defaulted, the ongoing public discussion would be even more negative about the Federal Reserve's LOLR responsibilities.

Lesson 4: Liquidity regulations and LOLR are both needed

The fourth lesson is that both a lender of last resort and liquidity regulations are needed. On the one hand, while liquidity needs are sometimes caused by a market failure that can be solved by an LOLR, they are also sometimes driven by concerns about solvency. In such cases, the social costs of LOLR lending in terms of moral hazard are higher, as are the risk of losses to the central bank. Requiring firms to hold adequate stockpiles of liquid assets buys time to assess the condition of the borrower and, if necessary, resolve the situation without lending. Moreover, liquidity regulations create a tax on an institution's liquidity risk-taking by making it hold a buffer of liquid but low-yielding assets. Liquidity risk entails the possibility that the bank would impose costs on others during a future episode of illiquidity, such as the costs associated with liquidity hoarding or selling assets at fire-sale prices. That liquidity regulation tax should encourage the bank to internalise the social cost of its risk-taking. Similarly, by simply making banks hold greater amounts of liquid assets, these regulations ensure that there are more resources that can be used to meet margin calls or funding withdrawals, thereby reducing the incentive for liquidity-hoarding or fire sales of assets, with all their destabilising effects.

But on the other hand, liquidity regulations do not eliminate the need for an LOLR. It is socially beneficial to have banks engage in liquidity transformation – the ideal bank is not funded entirely with equity and invested only in T-bills, so banks will, at times, encounter periods of illiquidity. Moreover, demand for liquid assets increases sharply in a crisis, when funding markets break down. In those situations, requiring banks to have high amount of liquid assets would not be sufficient and an LOLR is necessary to reduce the procyclicality associated with liquidity hoarding.[3]

Regulations should be designed to reinforce the beneficial role of an LOLR while reducing the likelihood of lending sparked by solvency concerns.[4]

Lesson 5: Moral hazard is a real problem

The final lesson is that moral hazard is not just an abstract concern; it is a real problem. Before the crisis, emergency lending by the Federal Reserve was almost never discussed. If it was discussed, it was always viewed as implausible and it would be noted that the Federal Reserve had not made an emergency loan since the 1930s. After the crisis, emergency lending comes up often both internally and

3 M Carlson, "Lessons from the historical use of reserve requirements in the United States to promote bank liquidity", Federal Reserve Board, *Finance and Economics Discussion Series Working Paper*, no 11, 2013, provides a good illustration of this view and highlights that individual bank liquidity during stress periods is inherently and intricately tied to the liquidity policies of the central bank.

4 This idea is further developed in M Carlson, B Duygan-Bump and W Nelson, "Why do we need liquidity regulations when we have a central bank? A perspective from Federal Reserve lending during the 2007–2009 U.S. Financial Crisis", mimeo, 2014.

externally. For example, officials in the money fund industry have noted that the Federal Reserve will provide liquidity if necessary, obviating the need for money fund reform. As a consequence, I'd emphasise that a workable resolution regime for systemically important institutions is essential so that institutions can be wound down at acceptable cost. And reform of the money fund industry – a perpetual source of risk to the financial system – is also critical.

A few words on Bagehot

Given the topic, I feel obliged to discuss at least briefly how I judge Federal Reserve lending during the crisis stacked up against Bagehot's dictum for acting as a lender of last resort. The catchphrase version of the dictum holds that the central bank should lend freely (ie without limit) at a penalty rate against good collateral. Based on this version, one could argue that lending was often inconsistent with the dictum. Overall, while Federal Reserve lent freely, it was often against risky collateral (albeit with conservative haircuts) and at interest rates that were below those then prevailing in the market. In fact, that was the point as the market rates had spiked up tremendously.

But, Federal Reserve lending was completely consistent with the principles that Bagehot explicitly credits with stopping the panic of 1825:

> The success of the Bank of England on this occasion was owing to its complete adoption of right principles.[…] the Bank directors lent money by every possible means, and in modes which we had never adopted before; we took in stock on security, we purchased Exchequer Bills, we made advances on Exchequer Bills, we not only discounted outright, but we made advances on deposits of bills of exchange to an immense amount – in short, by every possible means consistent with the safety of the Bank.[…] and we were not on some occasions over nice. Seeing the dreadful state in which the public were, we rendered every assistance in our power.[5]

[5] W Bagehot, *Lombard Street, A Description of the Money Market*, 1873, reprinted by William Clowes and Sons, London, February 1915, pp 52 and 192.