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REPUBLICAN STAFF ANALYSIS

LENDER OF LAST RESORT IN THE MODERN FINANCIAL SYSTEM

DEVELOPMENT OF THE FEDERAL RESERVE'S POLICY

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Being Lender of Last Resort (LOLR) is a major function of the Federal Reserve, but this function has become confused with "bailout" in recent years. A better understanding of a LOLR by taxpayers and better policy adherence to the traditional LOLR function by the Fed would be of great benefit to the U.S. economy.

CONTEXT

Public uproar followed the Federal Reserve's actions during the 2008 financial panic. Bear Stearns, Lehman Brothers, and American International Group (AIG) were seared into America's conscience. Two very different movements—the Tea Party and Occupy—arose, in part, because of the Fed's actions.

Many are appalled that the Federal government may have had a "policy of enablement" during the crisis, perceiving that the Treasury and the Fed enabled the excesses of politically-connected financial institutions via "bailouts," especially for firms that posed systemic risks, or were "too big to fail." Thus, the normal central banking function of "**lender of last resort**" (LOLR)—known since **Walter Bagehot**, editor of *The Economist*, articulated the principles of a LOLR in his groundbreaking 1873 work, *Lombard Street*—has been confused with "bailouts," in which the federal government will use any means, including the Federal Reserve, to "keep things going." However, bailouts and LOLR functions are distinctly different in their purpose, economic effects, and appropriateness in a free market economy.

Bailouts and Lender of Last Resort functions are distinctly different in their purpose, economic effects, and appropriateness in a free market economy.

COMMERCIAL BANKS & THE SHADOW BANKING SYSTEM

Before exploring the proper LOLR role, preliminary comments may be helpful on key elements that were at the heart of the 2008 crisis.

Commercial Banking in Brief

Though **commercial banks** did not drive the crisis, it is important to understand their role, as it provides a useful starting point.[1] Commercial banks are institutions that:

- Accept deposits (e.g., checking and savings accounts), which are largely payable on demand, from households and businesses; and
- Make longer-term loans (e.g., auto loans, residential and commercial mortgages loans), based on inside (i.e., non-public) information, to households and small- to medium-sized businesses, which cannot

(Continued on the next page ...)

directly access financial markets by issuing debt securities, like commercial paper and bonds.

Economists describe these functions as (1) **intermediation** (i.e., providing a conduit between savers and borrowers); and (2) **liquidity and maturity transformation** (i.e., transforming illiquid, longer-term, inside loans to households and small- and medium-sized businesses into deposits payable on demand).

Inside loans (unlike Treasuries and other debt securities, which are traded regularly in public markets) do not have a market-determined value. Instead, bankers make subjective determinations on a loan's value based on non-public information, like what is provided by consumers and businesses through the loan application process. Inside loans and asset-backed securities (ABS) collateralized with inside loans comprise a majority of the assets held by most commercial banks. Consequently, the public cannot easily determine the solvency of commercial banks.

Commercial banks operate on a fractional reserve banking basis … no commercial bank is able, by itself, to pay all of its depositors all of their deposits at once.

Commercial banks operate on a **fractional reserve banking** basis (i.e., banks keep only a small percentage of their total deposits as cash-on-hand to pay depositors seeking to withdraw funds). Beyond the minimum reserves required by central banks, commercial banks may keep reserves in excess of the regulatory minimum and may own short-term, highly liquid debt securities, such as Treasuries. These additional sources of liquidity provide commercial banks with the means to meet an unexpected surge in withdrawals. However, no commercial bank is able, by itself, to pay all of its depositors all of their deposits at once.

<u>Bank Runs & Financial Crises</u>

If the public believes that a commercial bank is likely to fail, its depositors may "run" to the bank to withdrawal their uninsured deposits.

This operating structure makes commercial banks subject to runs and panics. If the public believes that a commercial bank is likely to fail, its depositors may "**run**" to the bank to withdrawal their uninsured deposits before the bank actually fails. Prior to **deposit insurance**, the last depositor "out" of the bank before it failed was made whole (i.e., they got their money), while the next depositor would lose essentially everything.

A bank experiencing a run must immediately seek alternative sources of funding. At first, a bank will exhaust its internal sources of liquidity by drawing down excess reserves and selling highly liquid debt securities. Then, a bank may seek short-term loans from other unaffected banks. If these measures do not quell the run, then a bank may seek to generate cash by demanding immediate repayment from borrowers with loans payable on demand and sell its inside loans and other financial assets. Without adequate time to find able buyers willing to pay fair market value, the besieged bank may receive significantly less than fair market value. This is known as a **fire sale**.

A run may become contagious when depositors perceive that the failure of one or more banks … is due to deterioration in general economic conditions … Contagious runs may morph into financial crises.

A run may become **contagious** (with grave economic consequences) when households and businesses perceive that the failure of one or more banks or other financial institutions is due to deterioration in general economic conditions, rather than bank-specific factors such as fraud or mismanagement. Contagious runs may morph into **financial crises**. During such a crisis, the scarcity of credit spikes interest rates, while fire sales drive

down asset prices. Non-financial businesses may encounter extreme difficulty in securing necessary credit at affordable interest rates to maintain normal operations. If the panic continues, waves of banks will fail, households will slash purchases, and non-financial businesses will cut output and slash their payrolls. This dynamic, of course, leads to a recession.

Over the centuries, banks and governments have responded to the threat of runs, contagion, and financial panics in a number of ways, including:

- **Prudential supervision**, which detects fraud and other misconduct in banks, monitors their financial condition, and provides an early warning of institution-specific or systemic problems so that central banks and other regulators can take corrective action before a financial crisis occurs;
- **Capital adequacy regulation**, which requires banks to maintain a minimum level of capital—shareholder equity plus certain reserves—to prevent excessive leverage;
- **Central banks**, which serve as lenders of last resort to solvent, but illiquid banks during a financial crisis (this is discussed in more detail in the following sections); and
- **Deposit insurance**, which discourages runs by protecting depositors against losses if their banks should fail.

Banks and governments have responded to the threat of runs, contagion, and financial panics through: prudential supervision; capital adequacy regulation; central banks; and deposit insurance.

Shadow Banking in Brief

During the three decades prior to the financial crisis of 2008, a largely unregulated alternative financial system emerged, which became known as the **shadow banking system**. It came to perform—and continues to perform, though in a more limited context—the intermediation function and the liquidity and maturity transformation functions that commercial banks had traditionally performed, though it lacked commercial banking safeguards.

During the three decades prior to the financial crisis of 2008, a largely unregulated alternative financial system emerged, which became known as the shadow banking system.

At the heart of this shadow banking system is the practice of **structured finance**, which is the pooling of financial assets (including loans, receivables, and debt securities) into different credit products that can be sold by their issuers to investors. Investing in the products of structured finance are **highly leveraged non-bank financial institutions** (HLNBFIs), which include finance companies, hedge funds, government-sponsored enterprises (GSEs)—like Fannie Mae and Freddie Mac, and investment banks.

The most common form of structured finance is **securitization**. Under securitization, originators extend loans, leases, and receivables to households and small- to medium-sized businesses based on inside information. Issuers buy these loans, leases, and receivables from their originators; place these loans, leases, and receivables into special purpose vehicles (SPVs) that are legally separate from the issuers; and sell derivative securities in these SPVs to investors. The most common securitization products were residential mortgaged-backed securities (RMBS) issued by Fannie Mae and Freddie Mac.

The shadow banking system had all of the functional characteristics of commercial banks, but … [it] had very weak prudential supervision and capital adequacy regulations; it did not have access to Federal Reserve's LOLR function; and it did not have federal deposit insurance for its short-term liabilities.

The shadow banking system had all of the functional characteristics of commercial banks, but because it did not accept deposits, it was not governed by all of the regulatory and institutional safeguards that have been historically necessary for commercial banks. Many HLNBFIs issued short-term commercial paper to fund a significant portion of their investment in longer term structured financial assets that were collateralized, in most cases, with inside loans made to households and small- and medium-sized businesses. The public bought some of the commercial paper issued by HLNBFIs directly and some of it indirectly through money market mutual funds. In turn, money market mutual funds provided households and businesses with the functional equivalent of checking accounts.

In effect, the shadow banking system duplicated the intermediation function and the maturity and liquidity transformation functions of commercial banks. Since the shadow banking system was also "borrowing short to lend long," HLNBFIs and money market mutual funds shared with commercial banks an inherent vulnerability to runs. However, the shadow banking system had very weak prudential supervision and capital adequacy regulations; it did not have access to Federal Reserve's LORL function; and it did not have federal deposit insurance for its short-term liabilities.

As the shadow banking system became more highly leveraged—meaning it held many times more debt than equity—in 2007 and 2008, doubt increased among investors about whether shadow institutions would fail. Due to the opaque nature of structured finance, investors were unable to determine what assets held value and what assets were worthless. Thus, the entire financial system came to the brink of collapse in September 2008, with the entire U.S. economy (beyond the financial sector) facing a devastation unlike any event since the Great Depression. This was because commercial paper—which is essential for the operation of large businesses—came close to freezing, which would have caused the cessation of many business operations, including among smaller businesses due to the fallout, for an undetermined period of time. Not only were investors at risk; most Americans (who were completely unaware of the situation's gravity), were at risk for, among other things, the prospect of not being able to obtain groceries for their family table or fill their gas tanks to get to work.

During a financial crisis, central banks should serve as LOLR, lending freely at a penalty rate of interest to solvent, though temporarily illiquid, commercial banks with good collateral. This ensures that solvent commercial banks with good assets do not needlessly fail due to being temporarily illiquid in a crisis.

Lehman Brother's failure and the pending failure of AIG, due to its exposure to other at-risk banks and HLNBFIs, proved to be the tipping point for the extraordinary actions taken in 2008. How the financial system got to this point of brinkmanship is the subject of the rest of this paper.

WHAT IS A LENDER OF LAST RESORT?

In many ways, the 2008 crisis is related to the development of the Fed's LOLR role, and the moral hazard embodied in that development. During a financial crisis, Bagehot argued that central banks should serve as the LOLR, lending freely at a penalty rate of interest to solvent commercial banks that offer good collateral. This ensures that solvent commercial banks with good assets do not needlessly fail due to being temporarily illiquid in a crisis. Through their ability to audit, inspect, and supervise commercial banks, central banks have access to inside information and are therefore better able than the public to identify which commercial banks are merely illiquid, but solvent, and which are actually insolvent.

What Bagehot did not contemplate for the LOLR is that it should bailout insolvent commercial banks and other financial institutions, which made bad decisions and whose collateral may be worthless. Rather, insolvent commercial banks and other financial institutions, big or small, should be allowed to fail with stockholders and executives bearing responsibility.[2]

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Another aspect of LOLR theory, articulated by Bagehot, is that a central bank should clearly articulate its LOLR position in advance of a crisis, and carry it out according to its pre-announced position. Surprisingly, through its century of existence, the Federal Reserve has yet to formally articulate a LOLR policy. Distinguished Federal Reserve historian Allan Meltzer explains:

> *The Federal Reserve has never clearly defined its responsibility as [LOLR] or announced a strategy for responding to crises. It creates uncertainty by, at times, preventing failure of banks and other institutions and at other times permitting failure … Announcing a clear strategy tells financial institutions what to expect. It removes uncertainty about whether there will be a bailout to prevent failures or whether the Federal Reserve will limit its action to preventing the spread of failures by providing liquid assets on demand against acceptable collateral.*[3]

A central bank should clearly articulate its LOLR position in advance of a crisis, and carry it out according to its pre-announced position.

DEVELOPMENT OF THE FED'S CURRENT LOLR "POLICY"

<u>1913 through the Great Depression</u>

Reviewing the historical evolution of the Fed's LOLR "policy" sheds light on how the nation arrived at that 2008 crisis. Modern U.S. monetary policy was born out of the **Panic of 1907**, during which J.P. Morgan effectively served as the LOLR. Morgan was a trusted banker with great influence, whose role could not be repeated by any one person today due to the inside information that he possessed with respect to quality of assets held by banks and financial institutions.[4] The 1907 crisis and the inability of the government to provide an effective response to the seasonal elasticity problems with the money supply led to the eventual creation of the Federal Reserve in 1913.[5]

While economists from Milton Friedman to Paul Krugman have accepted the LOLR role as an essential responsibility of a central bank, it is noteworthy that despite having been born out of a LOLR event, the Fed failed in this capacity during **the Great Depression**. Friedman and Anna Jacobson Schwartz observed in their seminal 1962 work, *Monetary History of the United States: 1867-1960*:

Economists from Milton Friedman to Paul Krugman have accepted the LOLR role as an essential responsibility of a central bank.

> *The major reason the system was so belated in showing concern about bank failures and so inactive in responding to them was undoubtedly limited understanding of the connection between bank failures, runs on banks, contraction of deposits, and weakness of the bond markets … They tended to regard bank failures as regrettable consequences of bad management and bad banking practices, or as inevitable reactions to prior speculative excesses, or as a consequence but hardly a cause of the financial and economic collapse in process.*[6]

In fact, the Fed of this period exacerbated the financial panic by sitting on the bank reserves it held instead of acting as LOLR—lending freely to

solvent, though temporarily illiquid, institutions. Yet, even following the experiences of the 1930's, rather than fully embrace a LOLR role set forth by Bagehot, the Fed settled on gradual growth in its LOLR role, evolving from crisis to crisis.

1970s: Political Pressure & Bailouts

By bailing out a particular firm in the Penn Central Crisis, the Fed effectively signaled that by applying political pressure, sizable or politically-connected firms would have a safety net.

The **Penn Central Crisis** in 1970 presented the now familiar "too big to fail" dilemma. Penn Central was the nation's seventh largest corporation, for which political pressure urged a bailout—though the proper response would have been for the Fed to allow the firm to fail while supplying reserves to the market to prevent the spread of the crisis.[7] By bailing out a particular firm, the Fed effectively signaled that by applying political pressure, sizable or politically-connected firms would have a safety net. In the wake of the Penn Central crisis, the Fed clarified that while it was LOLR to the entire financial system, its assistance was limited to the impact of an institution's failure on the broader financial system, and that the Fed would only accept direct obligations of the United States as collateral.[8]

Still, the Fed had not fully learned its lesson, as demonstrated in the 1974 collapse of one of the nation's largest banks—**Franklin National Bank**. After the bank experienced extensive losses, the Fed made a significant loan to Franklin through its discount window, while the Federal Reserve Bank of New York took over management of Franklin's portfolio. The Fed merely delayed Franklin's collapse, and the actions only served to encourage risky behavior. The Fed should have allowed Franklin to fail while supporting the rest of the financial system.[9]

As the Fed continued to evolve in its LOLR role, it's also worth noting the **potential New York City default** of 1975. Though default was averted, the situation sent shockwaves through the political system. Congress sought emergency loans from the Fed, which responded to the political pressure by attempting to find middle ground—agreeing to temporarily increase bank discounts, but opposing loans to the city.[10] Of significance, this instance was more in line with Bagehot's concept of protecting the broader financial system as the Fed embraced a broader interpretation of its LOLR role.

1980s: The S&L Crisis; The Fed Embraces a LOLR Role for the Entire Financial System; & The Roots of Deregulation

The broader impact of the Fed's policy in the S&L Crisis, for the financial system, is that the Fed came to embrace the position that it was the "LOLR to all solvent financial institutions,"—solvent being the key term.

Next, the **Savings and Loan Crisis** of the 1980's was driven by mutual savings banks and thrifts, which were suffering losses due to fixed-rate mortgage loans yielding less than the cost of the institution's deposit liabilities. These institutions were not members of the Federal Reserve System, so there were divergent views about the Fed's ability to immediately come to their aid. By appealing to Congress, the S&L's brought political pressure onto the Fed, which resulted in the Fed developing "a program for long-term loans to 'assist depository institutions with longer-term assets when they are confronted with serious prolonged strains on their liquidity arising from an inability to sustain deposit flows.'"[11] In as much as this serves as an example of how political pressure can be brought upon the Fed and its results, the broader impact of the policy for the financial system is that the Fed came to embrace the position that it was the "LOLR to all solvent financial institutions,"[12]—solvent being the key term.

Further bank failures in the 1980's—such as **Penn Square** in Oklahoma and **Continental Illinois Bank** provided for further learning experiences. Penn Square made large loans to oil and gas firms, which became worthless as oil and gas prices fell. While the Fed at first lent to Penn Square, the institution went bankrupt, and the Fed eventually allowed the bank to fail, in part to serve as a warning to other institutions.[13] Continental Illinois was tied to Penn Square's energy loans, and to prevent bank runs (Continental Illinois was the seventh largest bank in the country at the time), the Fed and agencies assumed responsibility for deposits and kept the bank solvent. However, no bank stepped forward to merge with Continental Illinois so it became the largest bank failure until the 2008 crisis.

In this instance, one of the major reasons for the FDIC "bailout" of Continental Illinois (rather than letting it go through normal FDIC resolution process of an assisted acquisition by another bank) was the Illinois law at the time, which forbid branch banking in Illinois. Due to these restrictions, Illinois had an excessive number of one-office banks in suburban Chicago and in smaller cities and towns downstate that kept large balances in Continental Illinois. A depositor pay-off, which would have been the likely outcome, given federal prohibitions on interstate banking at the time, would have caused these correspondent banks, with balances well in excess of FDIC limits, to fail as well.

The unintended adverse consequences of geographical regulation in place at the time of the Continental Illinois failure contributed to a climate of deregulation along geographic lines and interstate banking going forward. The Continental Illinois failure is also notable as it helped to bring the phrase "too big to fail" into the American conscience. As noted by Meltzer:

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> *By protecting a large bank, government agencies encouraged 'giantism' and increased moral hazard—the willingness of banks to increase the risks in the knowledge that if the risk pays off, they gain, and if losses increase, the taxpayers absorb the losses. Moral hazard had long been present in deposit insurance protection, but extending protection to uninsured depositors increased the problem.*[14]

While other LOLR events occurred in the years after Continental Illinois—including the Fed acting in the wake of the **1987 stock market crash** and after the **2001 terrorist attacks** to affirm that they were willing to provide liquidity if needed—no institutional failure reached the severity of Continental until the 2008 crisis.

Meltzer argues, "The absence of a [LOLR] policy has three unfortunate consequences … uncertainty increases … troubled firms have a stronger incentive to seek a political solution … [and] repeated rescues encourage banks to take greater risk and increase leverage."

The 2008 Financial Crisis

The **2008 crisis** provided a case in point for why it is critical that the Fed articulate its official LOLR role and position. As Meltzer argues:

> *The absence of a [LOLR] policy has three unfortunate consequences. First, uncertainty increases. No one can know what will be done. Second, troubled firms have a stronger incentive to seek a political solution. They ask Congress or the administration for support or to pressure the Federal Reserve or other agencies to save them from failure. Third, repeated rescues encourage banks to take greater risk and increase leverage. This is the well-known moral hazard problem.*[15]

The chaos of 2008 illustrates these points well. The Treasury and the Fed arranged a takeover of **Bear Stearns** in the spring with the Fed taking on $29 billion of risky assets. Then **Lehman Brothers** was allowed to fail in the fall, which was a major policy reversal that sent shock waves and panic reverberating throughout the financial system. Immediately after this, the Fed bailed out **AIG**, which—because of its exposure to credit default swaps insuring "toxic assets" at banks and how these swaps interplayed with U.S. bankruptcy law—became absolutely necessary to prevent a chain reaction of failures among many banks, leading to an economic Armageddon with the complete freezing of credit in the United States and a probable 1930-style panic.[16]

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Nonetheless, the back-and-forth actions in 2008 have contributed to more uncertainty over the Fed's policy, and it certainly has not lessened the expectations that the Fed's policy, to this day, is to "keep things going" at the expense of allowing the free market to work and requiring bad-actors to suffer the consequences for their risky decisions.

Proponents of the subsequently-enacted Dodd-Frank "*Wall Street Reform and Consumer Protection Act*" claimed that it ended "too big to fail." In reality however, Dodd-Frank merely provided regulatory window-dressing, while failing to put significant measures in place to change the market's expectations about further bailouts. As noted by Federal Reserve Bank of Dallas President Richard Fisher:

> *For all that it specifies to treat the unhealthy obesity and complexity of too-big-to-fails, Dodd–Frank has an Achilles' heel. It states that in the disposition of assets, the FDIC shall "to the greatest extent practicable, conduct its operations in a manner that … mitigates the potential for serious adverse effects to the financial system." This is entirely desirable; nobody wants to initiate serious financial disruption. But directing the FDIC to mitigate the potential for serious adverse effects leaves plenty of wiggle room for fears of "cascading defaults" and "catastrophic risk" to perpetuate "exceptional and unique" treatments, should push again come to shove.*[17]

It takes little to draw out the creative side of federal regulators, and when such wiggle room is embedded within the law itself, history suggests what is to come—more bailouts—and the market will behave accordingly.

CONCLUSION

To guard against future panics and curb the Fed's trend toward ever larger "rescues," the Fed would do well to clearly articulate the LOLR principles by which it will abide going forward.

To guard against future panics and curb the Fed's trend toward ever larger "rescues," the Fed would do well to clearly articulate the LOLR principles by which it will abide going forward. This would help to increase certainty and reduce moral hazard. If the LOLR policy needs periodic updating to address changes in markets or practices, that is fine; however, what is important with respect to the LOLR role is that Bagehot's principles are upheld, and—in particular—that the LOLR role be clearly articulated in advance of a crisis. Financial markets, market participants, and the American public would be well served by the Fed formally publishing its LOLR policy.

[1] For purposes of this paper, discussion of commercial banks also encompasses other depository institutions, such as savings banks and credit unions.
[2] Meltzer, Allan H., *A History of the Federal Reserve, Volume 2, Book 1: 1951-1969,* University of Chicago Press (Chicago, 2009), p. 25.
[3] Ibid.
[4] Morgan, his associates, and his employees served as directors of financial and non-financial firms, which were competing against each other—something that would clearly be in violation of modern anti-trust law.
[5] See the discussion of the form-seasonal elasticity problem in JEC Republican Paper, *U.S. Monetary History in Brief, Part 2*, pg.3 at http://tinyurl.com/cuf9pp5
[6] Friedman, Milton and Schwartz, Anna Jacobson, *Monetary History of the United States: 1867-1960*, National Bureau of Economic Research (Princeton: 1964), p. 358-359.
[7] Meltzer, p. 609.
[8] Ibid., p. 656-657.
[9] Meltzer, *A History of the Federal Reserve, Volume 2, Book 2: 1970-1986,* University of Chicago Press (Chicago, 2009), p. 881.
[10] Ibid., p.993.
[11] Ibid., p. 1069.
[12] Ibid.
[13] Ibid., p. 1105-1106.
[14] Ibid., p. 1173-1174.
[15] Ibid., p.1249.
[16] J.P. Morgan created credit default swaps in 1997 as a means of allowing banks to reduce the amount of capital that they would otherwise have been required to hold based on the size and quality of their assets. This allowed banks to substitute the higher credit rating of the seller for the lower credit rating of the assets they held. The issue, which emerged in 2008, was what happens if a seller of swaps, like AIG, files for bankruptcy? In such a case, then a bank holding a previously insured asset would immediately have to increase its capital based on the rating of the underlying asset, and this increase would have been substantial. Obviously, this would have been very difficult to impossible in the environment of a panic, leading to the failure of many banks.
[17] "Taming the Too-Big-to-Fails: Will Dodd-Frank Be the Ticket or Is Lap-Band Surgery Required," Remarks by Richard W. Fisher before Columbia University's Politics and Business Club on Nov. 15, 2011; Federal Reserve Bank of Dallas. Found at: http://www.dallasfed.org/news/speeches/fisher/2011/fs111115.cfm