Crisis at the Fed: An Examination of New Tools and Conflicts of Interests. Are We Facing a Paradigm Crisis?

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INTRODUCTION

With the Federal Reserve Act of 1913, Congress created The Federal Reserve System. The idea of a centralized bank had faced great opposition since the very foundation of the country; however, The Fed's unique design convinced the Congress that there were enough checks and balances. Its primary purpose and tools have remained relatively unchanged, with its focus following the Second World War being increasingly on the "dual mandate" to "promote effectively the goals of maximum employment, stable prices and moderate long term interest rates." This became official with the Employment Act of 1944.

The traditional tools for the Federal Reserve to affect the money supply have been open market operations, discount lending, reserve requirements, and since the 1970's to affect the federal funds rate. Traditionally during economic downturns, the Fed eases the recession and promotes recovery by lowering the federal funds rate and expanding the money supply. With the financial crises of 2007-8, these traditional tools became ineffective. With the federal funds rate targeted effectively at zero, the cost of funds to banks had been lowered, yet credit markets continued to be dysfunctional. New tools were created including the Term Auction Facility (TAF), Commercial Paper Funding Facility (CPFF), Term Securities Lending Facility (TSLF), and Primary Dealer Credit Facility (PDCF) to name a few. The actions taken by the Fed were made to avoid the mistakes of the Great Depression, and also somewhat mirrored the Bank of Japan during its financial crisis. There were, however, also actions taken whose total effects are yet to be seen.

This paper will examine the changing Federal Reserve and determine the effectiveness of these new tools. It will then seek alternate policy solutions and examine historical theories as to

the fate of the Fed and reasons for change in the social structure. Concerns over the policy itself, its timing, and its moral-hazard effect will be analyzed, as well as the theory of Social Structures of Accumulation and Paradigm Crisis.

LITERATURE REVIEW

In 2007 the worst financial crisis since the Great Depression began after a series of events that froze credit markets, destroyed financial institutions, and began the longest recession on record in the postwar era. The cause and severity of this new financial crisis would lead to the ineffectiveness of the traditional tools of the Federal Reserve and the beginning of a series of untraditional methods.

The financial crisis began first with a decline in housing prices, which then lead to a rise in mortgage delinquencies, subprime mortgages and ARMs (adjustable-rate mortgages) in particular. Because these were only part of a larger credit boom, the entire market began to be affected. Investors who were uncertain about the size and scope of the problem became risk adverse and avoided trading or required a substantially higher return. The credit market then became worse as the suffering financial institutions that depended of these markets cut back lending, and lead to both failures and near failures of these institutions. Useful background information to the crisis is provided by Asani Sarkar 2009. The background information helps to addresses the programs of a central bank, when they are necessary and when they cease to become so.

The large amount of deregulation over the last thirty years has come into question and been accused of allowing this financial crisis as well. Lack of regulation can lead to an overwhelming amount of high risk investments, such as those that caused the crisis, and allows

for situations that make monetary policy relatively ineffective. An examination of these effects can better help determine the causes and solutions of the financial crisis (Tymoigne 2009).

The primary focus of the Federal Reserve overtime had become the federal funds rate. The Fed aggressively lowered its target rate and brought down lending rates; however, the markets remaining dysfunctional, and with the economy far from recovery, the Fed began to create new tools to address the problems focusing on liquidity early on, and then credit risk. The new tools would be methods of quantitative easing or "credit easing" as Federal Reserve Chairman Bernanke called it. This consists of increasing the size and expanding the content of the Fed's balance sheet in order to address the liquidity and credit concerns, and requires an entrance and exit strategy for proper execution (Blinder 2010).

The Term Auction Facility (TAF) was established when there became a "stigma" for banks borrowing from the discount window, which published such borrowers, as banks that did so were seen as being unhealthy. The Federal Reserve then promoted TAF as a program for institutions that were well off and was a new way to provide short-term liquidity to commercial banks in particular. Due to its structure and the fact that it was a new program, TAF was able to avoid the same negative stigma with investors. Other tools including Commercial Paper Funding Facility (CPFF), Term Securities Lending Facility (TSLF), Primary Dealer Credit Facility, Asset-Backed Commercial Paper Money Market Fund Liquidity Facility (AMLF), Maiden Lane Facilities, and Term Asset-Backed Securities Loan Facility (TALF) are examined in order to understand their process and level of significance (Sherman 2009).

One way to evaluate the effectiveness of the Fed's policies is by examining the correlation between the type of problem and tools being used to correct the problem at that

particular point in time. Because the Fed addressed liquidity risks in the early stages of its invention and addressed credit risks in the later part of 2008, we can see if they addressed the particular problem at hand with the proper tools using empirical data such as the LIBOR-OIS spread (Sarkar 2009). The LIBOR-OIS spread is the difference between the London Interbank Offered Rate and the overnight indexed swap and can be used as a measure of interbank stress.

The effectiveness of the Fed's actions can also, in part, be measured by comparing its actions to similar periods of financial crisis such as the Great Depression and Japan's "lost decade". The mistakes of the Great Depression included not allowing the money stock to continue to grow in order to prevent deflation, and correcting certain "stigmas" associated with borrowing from the discount window. The Fed improved on its methods based on these mistakes through its many programs including TAF. Also the Fed avoided the bankruptcy of financial firms that would have provided systematic risks, with the exception of Lehman Brothers. The Lehman Brothers collapse as similar to the allowed collapse of the Bank of United States; however, in the current situation the Fed helped better nullify that fallout through programs like AMLF which extended loans for commercial papers to bank holding companies after the commercial paper market froze (Wheelock 2010).

A lesson learned from the past was also that the new interferences of the Bank of Japan during its financial crises, if aiming to avoid mistakes of the American Great Depression, were not done on a large enough scale or early enough. By this measurement the Fed was doubling its balance sheet in a matter of months as opposed to the years it took the BOJ. Also, the Fed's increasing focus on credit without the restraints that the BOJ faced allowed it to more aggressively tackle the problem. This indicates that the Fed did act on some of the mistakes learned from the crisis in Japan (Kuttner 2010).

While the Fed avoided the mistakes it learned from history, there are many aspects of it actions that have unknown consequences. This along with the longevity of the negative economic data has lead to much criticism and alternative policy proposals. Looking at the quantity-theory, there are some critics who say that the Fed did not expand the monetary base soon enough. It failed to follow the decline of the natural interest rate with the federal fund rate between April 30 and October 8, 2008 (Hetzel 2009). R. L. Hetzel describes the natural rate as "The natural interest rate is the real interest rate consistent with an amount of aggregate demand that provides for market clearing at full employment. The real interest rate provides the incentive for individuals to change their contemporaneous demand for resources (consumption and investment) relative to that demand in the future in a way that smooths changes in output around trend." Between mid-March and mid-September of 2008, bank credit fell slightly and at the time there was barely a rise in M2. Positive statements on future outlook by the FOMC and deceptive GDP numbers also raised predictions of higher fund rates which contracted the money supply, at a critical time, instead of expanding it (Hetzel 2009). He argued that the Fed, when faced with a zero lower-bound constraint, should replace discretions with rules.

Another concern with the effectiveness of the Fed is that its lending to specific financial firms will have stronger long term negative effects in that it creates moral hazard for particular firms as well as endangering the Fed's political independence (Lacker 2009). The perceived safety net would protect very large institutions from having to properly manage risk and could cause similar problems in the future. Also, by lending to specific firms politics enters its policies. If monetary and credit policies are tied together then an exit strategy is made more difficult by the fact that if the economy begins to recover before the credit market is determined to be fully

functional then it cannot withdraw its stimulus without resistance. Therefore the Fed should remain solely focused on monetary policy (Lacker 2009).

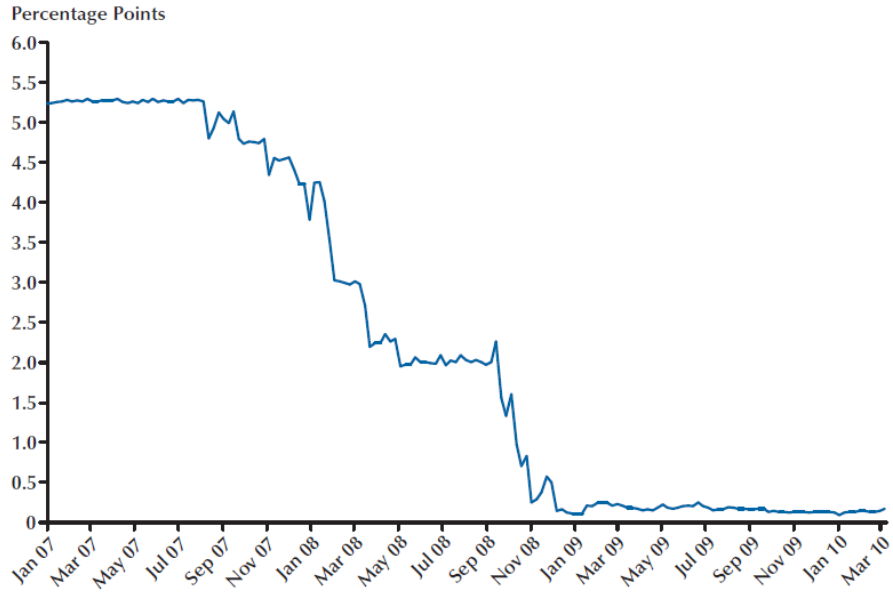
Critics of the Fed bring into question its overall exit strategy. As mentioned above, not being able to properly execute the exit strategy could lead to an inflation problem in the future. Currently banks are holding large portions of idle cash; however, when the recovery occurs and they begin lending it can cause a greater expansion of money. The Fed will then have to sell back MBS to drain the reserves or use its new ability to pay interest on reserves to allow banks to retain more (Mankiw 2010). There are, however, concerns with this new rule allowing the Fed to pay interest on reserves. The legislation can limit regulation threw "lock-in laws" and has a deflationary bias. An alternative policy recommendation is for an asset based reserve requirements which would not have any costs to the taxpayer and improve monetary control when exiting from the quantitative easing (Palley 2010).

Even as debates on the exit strategy continue and ideas for alternative Fed tools are theorized, some of the economic indicators remain extremely poor. Troubling indicators include 9.8% unemployment rate and loan default rates, which are typically less than 1%, are at 10% (Federalreserve.gov). This has called into question the entire view about and expectations about the Fed and what it can do. The Fed may not be able to solve the economic crisis. The crisis arose as part of the boom and bust cycles of the economy and that lack of demand is a consequence of the bust, not the cause. The recession and lack of demand comes from a correction of balance sheets that need to be corrected. The Fed's action, however, causes a disincentive to save and therefore makes the problem more severe. Low interest rates over an extended period of time not only penalize savings but will distort the market as it did during the housing boom (O'Driscoll 2010).

New Liquidity Tools

In late 2007 as the housing market began to deteriorate, The Federal Reverse began to employ its traditional tools, but also quickly formed new liquidity facilities, the beginning of its new Quantitative Easing policies. The traditional tool which is recognized as the most effective and therefore most utilized is Open Market Operations. While the creation of the liquidity facilities first began before the federal funds rate hit zero, for fear of imminent disaster resulting from frozen credit markets, it is this idea of keeping the federal funds rate positive that is the basis for the Fed's use of Quantitative Easing. With a fixed nominal interest rate and falling prices, the real interest rate would get increasing larger, putting extraordinary pressures on the economy. Because the Federal Funds Rate was lowered to zero, it is essentially fixed, and the current basis for other actions by the Fed to keep interest rates low is created (Blinder 2010).

Effective Federal Funds Rate



SOURCE: Federal Reserve.

In the past, central banks have always been reluctant to directly lend to private entities for two primary reasons (Kuttner 2010). One reason is so that the central bank does not interfere with the allocation of credit and risk in the open market. If the prices used by the central bank do not properly reflect market prices, e.g. no-cost loans, then these transactions represent a form of subsidy for individual institutions. The other reason is their fear of loses from their loans, and the consequences, with relation to inflation and Fed independence (Kuttner 2010). Despite this, the Fed believed the current financial crisis called for unconventional methods.

The Term Auction Facility (TAF) was the first of many new tools outside the discount window that were established by the Fed under its responsibilities as "lender of last resort". The Fed classified its actions under three categories. The firsts was short-term lending to financial institutions, the second was providing liquidity to key markets, and the third was buying longer-term securities from government sponsored entities (Sherman 2009). The initial implementation of new liquidity facilities such as TAF, Commercial Paper Funding Facility (CPFF), Term Securities Lending Facility (TSLF), Primary Dealer Credit Facility (PDCF), Asset-Backed Commercial Paper Money Market Fund Liquidity Facility (AMLF), Maiden Lane Facilities, and Term Asset-Backed Securities Loan Facility (TALF) would cause the growth of the Fed's balance sheet from $900 billion to $2.1 trillion in the first 18 months alone

The Term Auction Facility or TAF was the largest of the liquidity facilities and provided liquidity to commercial banks through biweekly auctions. In the past banks would not always borrow from the Fed because doing so was associated with a troubled institution and could scare both investors and depositors. The purpose, therefore, of TAF was to create a way to lend banks money and avoid the negative sentiment by marketing it as a device for financially sound institutions. In Chairman Bernanke's address to the House Committee on Financial Services on

February 10, 2010, he states “Another possible reason that the TAF has not suffered from stigma is that auctions are not settled for several days, which signals to the market that auction participants do not face an immediate shortage of funds”. The program expanded to its peak of around $600 billion outstanding in March 2009 and began to shrink thereafter. The Federal Reserve decided to extend the program in June 2009 for another year, holding its final auction in March of 2010 of $25 billion in a 28 day credit (Fed D).

On October 27, 2008, the Fed created the Commercial Paper Funding Facility (CPFF) to provide liquidity to US issuers of commercial paper. The facility was created because the usual buyers of commercial paper had become reluctant when the financial crisis began. The purchase of commercial paper is important in that they fund the daily operations of businesses. The Fed would hold the debt to maturity to bear any risk created by the issuers. The CPFF peaked at $350 billion in the beginning of 2009 and was eventually closed on February 1, 2010.

The Term Securities Lending Facility (TSLF) allowed the primary bond dealers who the Fed uses to buy or sell bonds to exchange a variety of securities with safe Treasuries and therefore foster “the functioning of financial markets more generally”. As the crisis became more severe in the fall of 2008, the Fed allowed as collateral new securities, including mortgage-backed securities. This increased the TSLF’s outstanding value to $230 billion until it began to decrease substantially in 2009. The TSLF was closed on February 1, 2010.

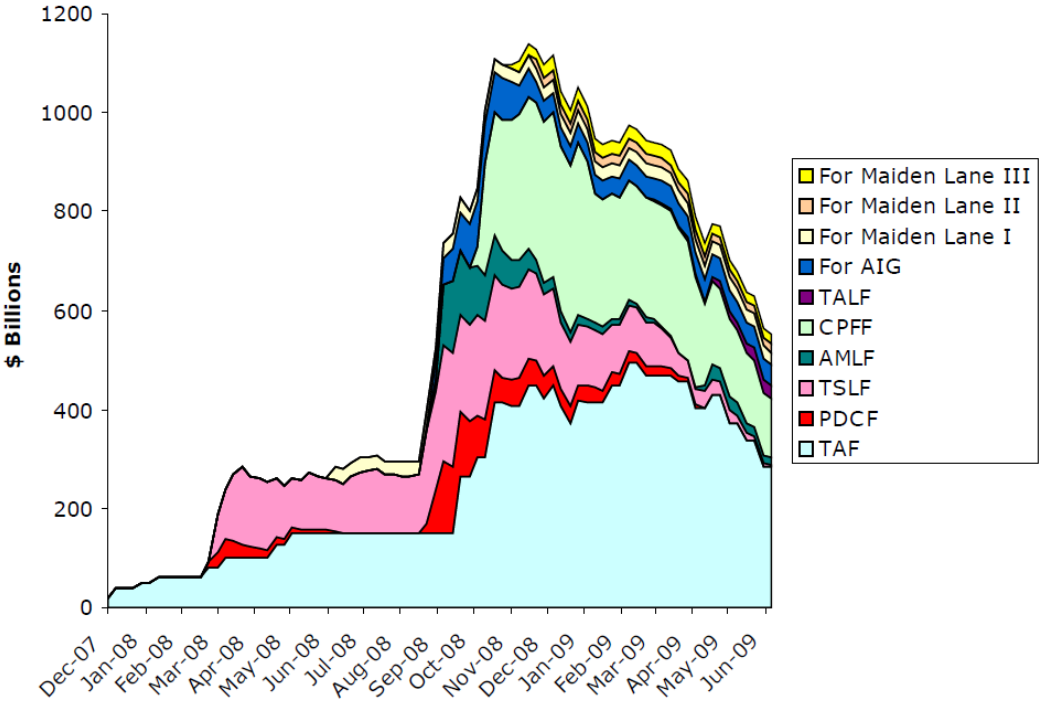
The fourth largest of the new liquidity facilities was the Primary Dealer Credit Facility (PDCF). The PDCF provides short-term borrowing to investment banks by providing overnight loans that are available daily. The Fed wanted to protect liquidity because such investments houses use overnight markets to adjust capital and balance their books (Sherman 2009). The

PDCF's outstanding value peaked at $150 billion in the fall of 2008 and was also closed on February 1, 2010.

The Asset-Backed Commercial Paper Money Market Fund Liquidity Facility (AMLF) was created to finance the purchase of asset-backed commercial paper from money market mutual funds and therefore strengthen money markets. The AMLF allowed banks to borrow funds for highly rated asset-backed commercial paper and pay an interest rate connected to that of the Boston Federal Reserve's primary credit rate. All loans were paid in full with interest before its close on February 1, 2010.

In November of 2008 the Term Asset-Based Securities Loan Facility (TALF) was created as another liquidity facility that would provide three year loans in exchange for asset-backed securities that were new and highly rated, and was directed at securities, such as Collateralized Debt Obligations (CDOs) backed by credit-card loans, car loans, and other consumer products. When TALF was launched on March 3, 2009 the press release by the Board of Governors of the Federal Reserve (Fed C) stated that "The TALF has the potential to generate up to $1 trillion of lending for businesses and households". In reality by July 2009 the lending was $25 billion, making it one of the smallest of the liquidity facilities.

Lending Activity at Special Federal Reserve Liquidity Facilities, Total Outstanding Since December 2007



Source: Federal Reserve Statistical Release, H.4.1 Factors Affecting Reserve Balances

Japanese Comparison

The closest parallel in history to the current financial crisis and the Quantitative Easing strategy of the Federal Reserve is the Japanese economic crisis that began around two decades ago. There are however difference in both the resulting downturn and the actions of the central banks. First, while the rise in private markets assets in both countries is similar, the eventual decrease was not. For the United States, the decrease in assets, including both the housing market and the equity markets was sudden and rapid. For Japan, the worthless home mortgage assets did

not take their toll on Japanese financial markets until almost four years after their decline and around 6 years after the initial decline of the Japanese stock market. It was only then in 1995 that the Bank of Japan entered as lender of last resort (Kuttner 2010). The Bank of Japan actions were similar to the ones of the Federal Reserve and the United States Federal Government in that first legislation was passed that would allocate $250 billion for the recapitalization of banks and another $250 billion for bank deposit guarantees, followed by the Bank of Japan, in order to sure up liquidity, increased its lending against short-term commercial paper collateral (Kuttner 2010). The Bank of Japan extended its lending program to corporate bonds and bank debentures in 1999, the same year BOJ cut its interest rates to zero (Kuttner 2010). The BOJ mostly bought government bonds in order to increase reserves and lower the risk-free yield curve by decreasing bonds rates. The bond rates did fall during the purchases of the BOJ, but during this time the BOJ also promised to keep short-term rates around zero for an extended period of time, and it is unclear as to which was the primary cause of the decrease (Blinder 2010). Another interesting note of Japan's Quantitative Easing policies is the movement of the Japanese Bank's reserves. IT took two and a half years to increase reserves from 5 trillion yen to 33 trillion yen; however, in 2006 the reserves fell to 8 trillion yen in a matter of months, possibly spurred by inflationary concerns even though there had been deflation problems during Japan's previous decade (Blinder 2010). While the outcome of the quick withdrawals of reserves on the Japanese economy is not completely clear, it is this rapid decrease in reserves that is the basis for the Fed's new ability to pay interests on reserves, which will be discussed further.

The difference in the two approaches was in the timing, the amount, and the focus. The Fed increased its balance sheet very rapidly over the first three months whereas the BOJ took years. Also, Fed the focus shifted from to credit creation from its liquidity measures, while the

BOJ only had liquidity injections and purchases of Asset-Backed Securities (ABS) and equity injects on a small scale (Kuttner 2010).

Conflicts of Interests

With the expansion of the Federal Reserve also came greater conflicts of interest. A clause in the Dodd-Frank Financial Reform Bill of 2010 forced the Fed to reveal information about transactions that took place over the lifetime of most of the aforementioned facilities. There were 21,000 transactions that took place between December 1, 2007 and July 21, 2010 that the Fed was forced to release after the passing of the financial reform bill. The transactions involved over $3.3 trillion and their publication has allowed for increased scrutiny of the Federal Reserve.

The Federal Reserve's involvement in financial transactions that favor and "bail out" certain institutions, it allows for what, at least at first glance, appears to be obvious conflicts of interests. Institutions such as General Electric, JP Morgan Chase, Goldman Sachs, Banco Popular, Sun Trust Banks, and Fifth Third Bank all have senior executives who served as regional directors of the Federal Reserve, at the same time as these institutions were given hundreds of billions of dollars in low-interest loans through many programs such as the Maiden Lane Facilities for JP Morgan and other facilities (Fox Business 2010). The elections of the Directors, who amongst other things recommend policy, are done by the member banks themselves. Member banks elect three classes of directors, one of which is bankers. Because Bankers and prominent business leaders, such as GE's Jeffery R. Immelt, make up the Board of Directors for the Fed, when the Fed engages in this type of direct lending to corporations and individuals there are bound to be conflicts of interests. It is important to note, however, that the

Fed did not overstate its legal authority according to Section 13(3) of the Federal Reserve Act described later in more detail. The actions by the Fed are not illegal, but do bring into question how broad the power of the Fed really is, since at the beginning of the Financial Crisis the only requirements by the Federal Reserve Act on the Fed's lending "crisis lending" was that the Fed had to take good collateral for its loans. The Fed itself, however, was able to deem whether or not the collateral was "good", and recent estimates also show that the Fed had given loans in its overnight programs in which 36% of the collateral was from below grade securities and 17% were from loans and other forms of credit that were unrated by institutions who also have ties to the Fed (Fox Business 2010).

The Maiden Lane Facilities were mandated by the US Treasury and created by the Fed in order to bail out individual firms. This, along with the other new tools opens the Fed up to further conflicts of interests, creates problems with respect to the Fed's independence from the federal government, and increases the moral hazard created by the precedent of "too big to fail". Maiden Lane was created to bypass the legal boundaries that prevent the Fed giving out unsecured loans and purchasing certain assets from the failing institutions. The way the Fed was able to avoid these laws was by establishing the three Maiden Lane Facilities as limited liability corporations to provide financial support. The main benefactors of these facilities were AIG, Bear Sterns, Goldman Sachs, and Société Général, a French-owned financial services company (Sherman 2009).

These types of unconventional actions by the Fed have lead to new scrutiny of the Fed not seen in recent history. On March 21, 2011 the Supreme Court ruled in favor of the lawsuit brought by Fox Business and Bloomberg news that under the Freedom of Information Act the Federal Reserve should be required to reveal its lending that have expanded so greatly during the

recent financial crisis (Fox Business 2011). Discoveries prior to the Supreme Court decision already had raised some eyebrows after investigations by the independent Senator from Vermont, Bernie Sanders. The Senator stated that several wealthy individual investors were given low-rate loans by the Fed to invest in securities issued by large corporations. While these actions by the Fed were taken to help sure up industries struggling during the financial crisis, these actions could represent unrestrained Fed ability for favoritism under the emergency powers given to them by Congress as emergency powers. The Fed invoked section 13(3) of the Federal Reserve Act, saying that it allows Reserve Banks to extend loans to individuals, partnerships, and corporations when approved by the Board of Governors under "unusual and exigent circumstances". A few months after invoking this section in Chairman Bernanke's address to a congressional committee, the Dod-Frank Financial Reform Bill amended section 13(3) to state that the Fed was not allowed to lend to insolvent corporations, or for the purpose of saving an individual corporation; however, it continued to allow the Fed to use its "broad based" programs to provide firms with low-rate loans with the purpose of providing the financial system with liquidity. This seemingly fails to impose any limit on moral-hazard or the Fed's power as it still allows for programs to provide funds just as it did through the previously mentioned tools of the Fed. The failure to truly address the issue of the power of the Fed, further advances the ideas of some who favor the ability of these actions to be under Congressional oversight in order to provide some sort of constitutional protection over abuses of power.

In a March 2009 speech, the President of the Federal Reserve Bank of Richmond Jeffery M. Lacker stated that monetary policy (i.e., expanding/contracting reserves) and credit policy (i.e., direct loans to businesses) are separate and that credit policies could be undertaken by the United States Treasury. This separation will have dual benefits in that it will also protect that

important independence of the Fed while also applying Constitutional protections to the use of taxpayers' money, one example being that the American people can vote directly for the President who partakes in such action. Because government lending by either the Fed or Treasury is in some way using taxpayers' money for private institutions it should go through the Congressional process which allows for the protection of the American people as designed by the founders in order to protect the people from abuse of power.

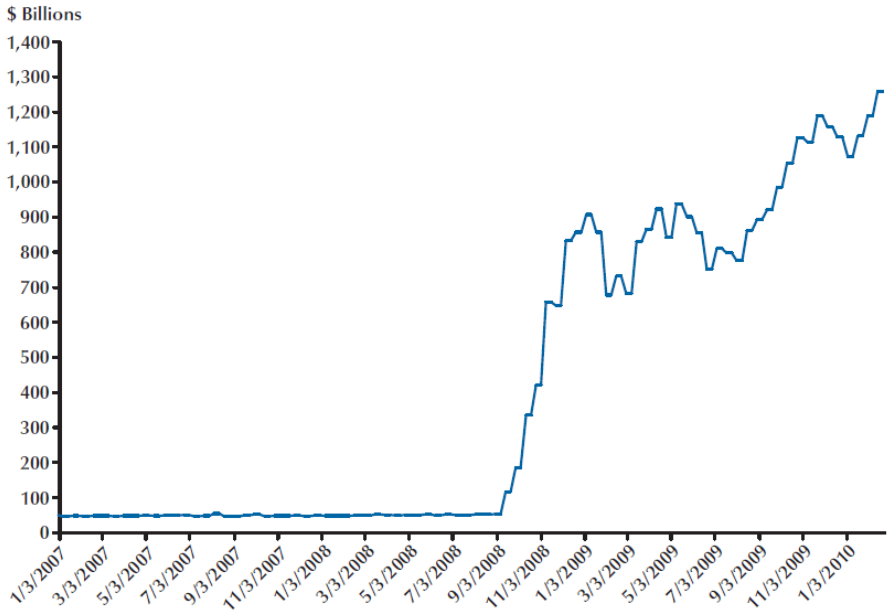
Referencing the 1951 Fed-Treasury Accord, along with his former colleague Marvin Goodfriend, Lacker also argues that the Treasury should be responsible for all but short-term lending in order to prevent the Fed from political influences that may impede its ability to take swift action.

> "On a practical level, at some point in the future, the Fed will need to withdraw monetary stimulus to prevent a resurgence of inflation when the economy begins to recover. That time could arrive before credit markets are deemed to be fully enough "healed" to warrant winding down particular credit programs. If monetary policy and credit programs remain tied together, as they currently are, we risk having to terminate credit programs abruptly, or else compromise on our inflation objective. Separating credit programs from monetary policy would make it easier to devise a successful "exit strategy," and would reduce market uncertainty about how any potential tension between monetary and credit policy will be resolved" (Lacker 2009).

This connection between Fed policy and the actions of the Treasury then calls into question the Fed's exit strategy. Chairman Bernanke spoke before House Committee on

Financial Services on February 10, 2010 to address his planned exit strategy from Quantitative Easing. For the liquidity facilities, Chairman Bernanke stated that those programs by default would begin to decline and eventually disappear as the economic environment improved. Most of the facilities at the time had either been closed or were on the decline as mentioned above due to lack of market demand. The Chairman also addressed normalizing the discount window by raising the discount rate which helps make the lending facilities less attractive so institutions will begin borrowing as they did before the financial crisis (Blinder 2010). The problem that begins to arise in the exit strategy is in its open market operations because they rely more on the central planning of the FOMC which now has an unprecedented amount of assets, as opposed to the more natural market forces that affected the liquidity facilities when they simply disappeared as the market improved and the institutions had no need for them (Blinder 2010). Miscalculations in the selling of assets too gradually could cause for a concerning amount of inflation. The member banks of the Fed have $1.369 trillion in reserves as of the March 2011 (Fed E), and have been more than willing to hold on to these reserves for the time being; however, as the recovery begins to pick up speed, the banks will begin loaning these reserves out.

Total Reserves of Depository Institutions



SOURCE: Federal Reserve.

According to the Fed, its recently acquired power to pay interest on bank reserves can allow it to control the amount banks hold and prevent large increases in the money supply that would lead to inflation. Without interest on reserves, there is practically zero demand for them by banks, but with the interest payments the banks demand for reserves will not go to zero because the banks can use them as safe short-term investments. “By increasing the interest rate on reserves, the Federal Reserve will be able to put significant upward pressure on all short-term interest rates, as banks will not supply short-term funds to the money markets at rates significantly below what they can earn by holding reserves at the Federal Reserve Banks. Actual and prospective increases in short-term interest rates will be reflected in turn in longer-term interest rates and in financial conditions more generally” (Bernanke 2010). The Fed’s task would then be to reduce the supply of reserves at the same pace the demand for them falls. On the other

hand there may be no worry of large reserves causing inflation if the market risk equals the reserve rate, then the demand would be infinitely elastic (Blinder 2010).

While the ability to pay interests on reserves was given to the Fed as an early tool to use to fight the financial crisis, its establishment as a new permanent tool was put in place in on October 12, 2006, before the financial crisis even began. Section 201 of the Financial Services Regulatory Relief Act of 2006 amends the Federal Reserve Act to allow for the payment of interest on reserves starting on October 1, 2011 (Palley 2010). The reasoning for this is that the Fed has been seeking the ability to pay interest on reserves for some time now. Before the argument for interest payments on all reserves as a mean of controlling quantitative easing, the argument for these payments revolved around increasing efficiency in the banking system (Palley 2010). By requiring banks to hold reserves, the Fed indirectly taxes the banks, decreasing the amount of deposits banks can use to lend and obtain profits. Therefore, because banks were getting to lend a lower amount than each dollar they received in deposits, they would then in turn have to offer less interest to depositors (Palley 2010)

If interest is paid on banks reserves, is this then a subsidy for the banking system? It can be argued that this is not a subsidy for banks because it is simply offsetting the negative effects of the required reserve. It can also be argued that holding reserve requirements is a cost associated with the business of banking in order to protect citizens in the same way as other industries face them. Having the government control the level of toxins in certain products is a regulation that could raise the costs of producers for the benefit of consumers, and is not seen as needing to be repaid in subsidies.

The problem with the arguments is that there has been debate over what type of policy is the best course of action for our nation. Those who argue for free markets and removing inefficiencies associated with government intervention advocate for the interest payments, while ignoring the fact that these interest payments and even the Fed itself is a distortion of a perfectly free market and a further burden to tax payers, as any net earnings of the Fed above 6% is returned to the US Treasury. If the interest on reserves is raised by the Fed to 3% on say the current reserves which are near $1.4 trillion, the total cost would be nearly $40 billion. On the other hand, those who advocate for large amounts of government intervention do not support these particular interventions because it does not support their interest or agenda. An example would be the asset based reserve requirements (ABRR) advocated by some including Thomas I. Palley of the New America Foundation in Washington D.C. ABRR's are a way to require banks to have different reserves against different classes of assets with regulatory agencies setting adjustable reserve requirements based on the class of assets. This is to be used as a policy tool in order to invest in areas of their own political interest by having low or no reserve requirements on assets investing in such things as renewable energy.

An alternative policy that would attempt to rid the Fed of the ability to either be influenced by the politicians of the US government or by those inside the Fed who hold political agendas themselves, would be those that revolve around Milton Friedman's idea against an independent Federal Reserve and for a strict guideline for monetary policy that would remove discretion from monetary policy (Bibow 2001). Friedman acknowledges the reasoning for the Fed's independence, " [an independent Fed] embodies the very appealing idea that it is essential to prevent monetary policy from being a day-to-day plaything at the mercy of every whim of the current political authorities" (Friedman 1962); however, he also rejects the idea of having the

vast powers of the Fed to be free of any type of effective control (Bibow 2001). Friedman instead proposes the idea of rules for the Fed to follow which would not only be consistent with eliminating conflicts of interests at the Fed, but would also create certainty for the markets when it comes to what to expect from the Fed, "An independent Fed may at times be too insulated from political pressures--as it was in the early 1930s--and yet at other times unduly affected by political pressures. ... A monetary rule would insulate monetary policy both from the arbitrary power of a small group of men not subject to control by the electorate and from the short-run pressures of partisan politics (Friedman 1972).

The discretionary ability of the Fed is not seen as completely necessary because some believe that the actions of the Fed are still not timely, since it failed to reduce the federal funds rate at the time the natural interest rate was beginning to fall (Hetzel 2009). Between April 30 and October 8, 2008 there was no reduction in the funds rate even though the decline in the economy had already been underway, and between March and September 2008 M2 also only barely increased (Hetzel 2009). On top of this, positive economic statements from members of the Fed allowed for futures markets to increase their expected funds rate. The expected rate in May 2008 for the rest of the year was 2%, and in June of that year the expected funds rate for November 2008 rose to 2.5%, in effect having a tightening policy during an economic downturn (Hetzel 2009). Hetzel argued that the natural rate of interest is depressed when there is an increase in the unpredictability of price levels as central banks move away from a stabilizing rule because "unanticipated monetary restrictions causes the price system to convey information about the relative scarcity of resources less effectively" (Hetzel 2009). Therefore more specific sets of rules should be established with the main objective being price stability.

Paradigm Crisis and Conclusion

The failure of the Fed's traditional tools and the creation of new tools and policies indicate that we could be facing a paradigm crisis when it comes to monetary policy and the role of the Federal Reserve. In *The Structure of Scientific Revolutions*, Thomas Kuhn indicates that all crises begin with a blurring of the existing paradigm. A change in existing theory can arise when the invention of new theories develops by the awareness of an anomaly. In the current situation of the Fed it is understood that an anomaly exists and is in fact significant. Using its traditional tools, the Fed lost control of the money supply, and was facing a frozen credit market. According to Kuhn, the failure of existing rules allows for the search for new ones through the discrepancy of theory and fact, and a crisis allows for retooling.

In responding to a crisis scientists may lose faith and consider alternatives, but the paradigm that has led to the crisis is rarely renounced immediately. As the crisis develops, competing ideas about the paradigm begin to articulate, as we have seen with the many proposed actions to handle the financial crisis.

Kuhn argues that there can be no research in the absence of a paradigm, so the paradigm will stay in place until other is accepted. I believe that we are currently we are at a pivotal point in the process, where the new tools have been created and several outcomes are possible. The first is that we emerge from the current crisis with the economy functioning with relatively normality when compared to the past. In this case there will not be a new paradigm that exists, but the impression that it was under the existing paradigm that new tools were created to get us out of the situation at hand. The newly created tools of the Fed through Quantitative Easing will

be established as permanent weapons to counter cyclical downturns, as seen already in the payment of interest rates on reserves, which was established as a permanent new tool.

On the other hand, the possibility of a paradigm shift could occur if in the future we experience rapid inflation and/or a substantial “double dip” recession. There is then the possibility that the failures are blamed not of the paradigm, but on the failure of the new tools and the people put in charge of handing the crisis. However, under the current political environment, it is possible that the alternative to the current situation is not to simply replace the people involved, but to replace the paradigm itself. The political environment, as seen by the rise in the Tea Party, has presented the alternative not just of a change in the people running the government, but of less intervention and smaller government. This leaves open the door for the type of set up of the Fed that was purposed by Milton Friedman, or once again the questioning of the very existence of a central bank.

References

Bernanke, Ben S. “Federal Reserve’s Exit Strategy.” Testimony before the Committee on Financial Services,U.S. House of Representatives, Washington, DC, February 10,2010a; www.federalreserve.gov/newsevents/testimony/bernanke20100210a.htm

Blinder, Alan S. "Quantitative Easing: Entrance and Exit Strategies." *Federal Reserve Bank of St. Louis Review* pp. 465-79 (Nov. 2010): pp. 465-79. *EconLit*. Web. 15 Dec. 2010. <http://research.stlouisfed.org/publications/review/10/11/Blinder.pdf>

Bibow, Jörg. "Reflections on the Current Fashion for Central Bank Independence." *The Jerome Levy Institute of Bard College* (July 2001): n. pag. *Levy Institute*. Web. 29 Mar. 2011. <http://www.levyinstitute.org/pubs/wp334.pdf>.

(A) The Federal Reserve, 2010, Federal Reserve Statistical Release (http://www.federalreserve.gov/releases/chargeoff/delallsa.htm)

(B) "Federal Reserve Act Secton 13. Powers of Federal Reserve Banks." *Board of Governors of the Federal Reserve*. N.p., 14 Dec. 2010. Web. 29 Mar. 2011. <http://www.federalreserve.gov/aboutthefed/section13.htm>.

(C) "Joint Press Release." *Board of Governors of the Federal Reserve* . N.p., 3 Mar. 2009. Web. 29 Mar. 2011. <http://www.federalreserve.gov/newsevents/press/monetary/20090303a.htm>

(D) "Press Release." *The Board of Governors of the Federal Reserve*. N.p., 8 Mar. 2010. Web. 29 Mar. 2011. <http://www.federalreserve.gov/newsevents/press/monetary/20100308a.htm>

(E) "Aggregate Reserves of Depository Institutions and the Monetary Base." *Federal Reserve Statistical Release*. N.p., 24 Mar. 2011. Web. 29 Mar. 2011. <http://www.federalreserve.gov/releases/h3/current/>.

"Federal Reserve's Bailout of the Rich and Well-Connected." *Fox Business* . N.p., 7 Dec. 2010. Web. 29 Mar. 2011. <http://www.foxbusiness.com/markets/2010/12/07/federal-reserves-bailout-rich-connected/#>.

Glass, Kathryn. "Supreme Court Says Banks Can't Hide Fed Lending Data." *Fox Businesss* . N.p., 21 Mar. 2011. Web. 29 Mar. 2011. <http://www.foxbusiness.com/industries/2011/03/21/supreme-court-says-banks-hide-fed-lending-data/#>

Hetzel, Robert L. "Monetary Policy in the 2008–2009 Recession." *Economic Quarterly* 95.2 (2009): Pages 201–233. *EconLit*. Web. 15 Dec. 2010. <http://www.richmondfed.org/publications/research/economic_quarterly/2009/spring/pdf/hetzel2.pdf>.

Kuttner, Kenneth N. "The Fed's response to the financial crisis: Pages from the BOJ playbook, or a whole new ball game?" *Policy Research Institute* 16.3 (2010):*EconLit*. Web. 15 Dec. 2010. <http://www.mof.go.jp/english/pp_review/ppr009/ppr009c.pdf>.

Lacker, Jeffery M. "Government Lending and Monetary Policy." 2 Mar. 2009. Federal Reserve Bank of Richmond. *Federal Reserve Bank of Richmond*. Web. 15 Dec. 2010. <http://www.richmondfed.org/press_room/speeches/president_jeff_lacker/2009/lacker_speech_20090302.cfm>.

Mankiw, N. Gregory. "Economic View Bernanke and the Beast ." *The New York Times* 16 Jan. 2010: n. pag. Web. 15 Dec. 2010. <http://www.nytimes.com/2010/01/17/business/economy/17view.html?_r=2>.

O'Driscoll, Gerald P., Jr. "The Fed Can't Solve Our Economic Woes ." *The Wall Street Journal* 16 Aug. 2010: n. pag. Web. 15 Dec. 2010. <http://online.wsj.com/article/SB10001424052748704388504575418964014417740.html>

Palley, Thoman I. "The Troubling Economics and Politics of Paying Interest on Bank Reserves: A Critique of the Federal Reserve's Exit Strategy." *Political Economy Research Institute* 221 (Mar. 2010): n. pag. Web. 15 Dec. 2010

Sarkar, Asani. "Liquidity Risk, Credit Risk, and the Federal Reserve's Responses to the Crisis." Sept. 2009. Federal Reserve Bank of New York. *ny.frb.org*. Web. 15 Dec. 2010. <http://www.ny.frb.org/research/staff_reports/sr389.pdf>.

Sherman, Matthew. "The Alphabet Soup Explained: An Analysis of the Special Lending Facilities at the Federal Reserve." *Center for Economic and Policy Research* (Mar. 2009): n. pag. *EconLit*. Web. 15 Dec. 2010. <http://www.cepr.net/documents/publications/alphabet-soup-2009-07.pdf>.

Tymoigne, Eric. "Securitization, Deregulation, Economic Stability, and Financial Crisis, Part I." *The Levy Economics Institute* (Aug. 2009): n. pag. *EconLit*. Web. 15 Dec. 2010. <http://www.levyinstitute.org/pubs/wp_573_1.pdf>.

Wheelock, David C. "Lessons Learned? Comparing the Federal Reserve's Responses to the Crises of 1929-1933 and 2007-2009." *Federal Reserve Bank of St. Louis Review* 92(2) (2010): pp. 89-107. *EconLit*. Web. 15 Dec. 2010. <http://research.stlouisfed.org/publications/review/10/03/Wheelock.pdf>.