

Should the Fed be Allowed to Lend to Insolvent Businesses?

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Abstract

The Dodd-Frank Act of 2010 was passed in response to the financial crisis beginning in 2007 known as the Great Recession. The purpose of the Act is “To promote the financial stability of the United States by improving accountability and transparency in the financial system, to end “too big to fail”, to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes.” The Act creates the first ever legal mandate prohibiting the Federal Reserve from lending to insolvent institutions. Is this mandate a good thing? According to a vast portion of the economic literature on the proper role of lender of last resort, a central bank should not lend to an insolvent business. However, the Great Recession has made clear that under certain circumstances the bailout of an insolvent firm may be the best policy option.

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1 Introduction

The 2008 Crisis was a banking crisis. And like most banking crises from the past, this one was a liquidity crisis. In response to Wall Street's illiquidity, the Federal Reserve lent money to the world's biggest financial institutions including Goldman Sachs, Wells Fargo, AIG, Bank of America, JP Morgan, Citigroup, and Morgan Stanley. The Fed's decision to lend money is considered by a majority of notable economists to be the right decision. Economists disagree about how much money the Fed should have lent out, who the Fed should have bailed out, and the conditions which banks being bailed out should have been subjected. While the specifics of the bailout are contestable, there is a consensus among economists that the general decision to liquidate Wall Street was the appropriate decision.

Much of the public was outraged by the bailout of Wall Street. In an effort to protect the public's money from ever again being used to rescue large financial companies, Congress, the Senate, and President agreed on the passing of the Dodd-Frank Act of 2010. The Act states its overarching intention on the second page¹ of its over 800 pages:

*To promote the financial stability of the United States by improving accountability and transparency in the financial system, to end "too big to fail", to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes.*²

As a means of accomplishing its principal goals stated above the Act legally prohibits

¹ The first page not including the title page.

² The Act in its entirety can be found here: <http://www.gpo.gov/fdsys/pkg/PLAW-111publ203/pdf/PLAW-111publ203.pdf>

the Fed from lending to an insolvent institution. According to a publication released by the United States Senate Committee on Banking, Housing & urban Affairs, the Act:

Limits the Federal Reserve's 13(3) emergency lending authority by prohibiting emergency lending to an individual entity. Secretary of the Treasury must approve any lending program, programs must be broad based, and loans cannot be made to insolvent firms.

The Dodd-Frank Act defines an insolvent borrower as any borrower who “is in bankruptcy, resolution under title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act, or any other Federal or State insolvency proceeding. Bankruptcy is a legal and economic matter. According to Article 1, Section 8, Clause 4 of the United States Constitution, Congress has the power to establish “uniform Laws on the subject of Bankruptcies throughout the United States.” Bankruptcy Code, formally Title 11 of the United States Code, lays the foundation for bankruptcy law at the federal level. The Bankruptcy Reform Act of 1978 is the primary piece of legislation dealing with bankruptcy having completely replaced the Bankruptcy Act of 1898. The Act of 1978 lays out the procedural and substantive laws of bankruptcy and creates US Bankruptcy Courts in all 94 federal judicial districts. Under Chapter 7 protection an individual or company gives up ownership of its assets to a trustee who then liquidates the assets as a means of paying off creditors. Under Chapter 11 protection the business is reorganized while still remaining in control of business operations (as opposed to a trustee taking ownership of the business), and the business filing for bankruptcy is called a debtor-in-possession (uscourts.gov).

Companies which engage in bankruptcy protection law or other insolvency

proceedings do so after being unable to pay back debt. The inability to pay back debt is what makes a company insolvent. A borrower can be cash flow insolvent and/or balance sheet insolvent. Basically, a borrower is cash flow insolvent when they are unable to pay back their debts as they come due. Cash flow insolvency may be a result of liquidity problems rather than problems dealing with the underlying soundness and fundamentals of the bank. Throughout this paper, I will equate insolvency with balance sheet insolvency which means that the borrower has assets less than liabilities. On a balance sheet, assets must equal liabilities. Insolvency refers to a specific component of the balance sheet called owner's equity, or OE for short.

Assets	Liabilities
Reserves	Deposits
Physical Property	Interbank Loans
Private Loans	CB Loans
Govt Bonds	Owner's Equity

Above is an example of a very simplified commercial bank's balance sheet. On the left hand side are assets. Assets are expected future income for the bank. These include

loans to customers such as mortgages loans, as well as loans made to the government, physical assets, and reserves held at the central bank or in the bank's vault. Liabilities are future expected expenses. These include customer deposits, interbank loans - whether from private banks or a central bank - and owners' equity (abbreviated OE). OE is a balancing item. Initially owner's equity consists of the bank owners' investments in the bank in order to get it operational. Once the bank is up and running, the flow of profits and losses are tallied up at the end of some designated time frame and are accounted for in OE as a stock item. Profits may be distributed to shareholders in the form of dividends or earnings may be retained and reinvested. Owners' equity gives a rough idea of the value of the bank. For example, if this bank is a publically traded corporation, one can get an estimate of the value of its shares by dividing shareholder equity by total shares outstanding. An insolvent bank is one whose repayment burden exceeds the present value of future income. Specifically, when OE is positive, a bank is solvent, and when it's negative a bank is considered insolvent.

I will investigate whether the Dodd-Frank Act's limitations on lending to insolvents is an economically beneficial limitation. Much of the economic literature points to this limitation as being beneficial because it reduces moral hazard.³ Some economists, however, note the difficulty in distinguishing between an insolvent and in illiquid institution, and therefore argue that the Fed should be allowed to lend to an insolvent institution.⁴ I contribute to the literature by giving reason why the Fed should be able to lend to insolvents even if it is not difficult to make the distinction between insolvency and

³ I define moral hazard as the portion of risk whose downside is hedged against through the implicit or explicit insurance provided by the lender of last resort.

⁴ An illiquid institution is one who is unable to pay debts as they come due specifically because the institution is unable to convert its assets into cash (or some other commonly accepted means of payment).

illiquidity.

The foundation for my argument in favor of the Fed being able to lend to insolvents rests on the notion of systemic risk and its relation to financial instability. De Bandt and Hartmann (2000) provide a sweeping and thorough survey on the economic literature around systemic risk, which they consider to be the underlying cause of financial crises and therefore very much effecting of general economic welfare. The authors explain that “at the heart of the concept [of systemic risk] is the notion of ‘contagion’, a particularly strong propagation of failures from one institution, market, or system to another.” Throughout this paper, *systemic risk* is defined as the likelihood of undergoing a systemic event, that is, an event whereby the distress of an institution or sector sequentially leads to distress in other institutions or sectors.

The remainder of this paper is sectioned as follows: In the Literature Review section I outline the existing arguments for and against the Fed being allowed to lend to insolvents and I review empirical evidence of systemic risk. In the Model section I analyze the benefits and costs of allowing the Fed to lend to insolvents. And in the Conclusion section I summarize the entire paper and conclude that the Fed should be allowed to lend to insolvents as a means of preventing financial turmoil.

2 Literature Review

Caprio Jr and Klingebiel (1996) examine data on worldwide bank insolvencies occurring since the 1970s and how governments have responded, concluding that bank insolvencies occur due to a mixture of bad luck, bad banking policy, and bad government policy. According to the authors, the most important microeconomic factors

that account for bank insolvencies include poor supervision/regulation (by the government or central bank) and deficient bank management. These microeconomic factors may be prevented if incentives were less distorted, that is, better aligned with theoretically socially optimal incentives. The most important macroeconomic factors are asset bubbles, recessions, and terms of trade drops. These macroeconomic factors would cause fewer insolvencies if the financial sector was subject to a more rigorous regulatory framework in which institutions are better able to deal with exogenous shocks.

The economic literature rather consistently agrees that should a central bank lend money, the institution being lent to should be solvent. Henry Thornton (1802) explains that those who act with rashness, imprudence, and improvidence and those who engage in wild speculation should not be lent money. Walter Bagehot (1873) also contends that a central bank should only lend to solvent businesses. These two authors set the groundwork for economists to come and are widely considered the founding fathers of modern lender of last resort theory. I will now address the arguments against and in favor of lending to insolvent banks.

Humphrey & Keleher (1984) claim that while the discount window may be useful in providing the market with liquidity, open market operations are a better means of doing so because through open market operations the Fed does not have to allocate funds to specific institution but can instead provide liquidity to the market as a whole, and therefore the Fed is better able to act as a lender during both crisis periods and times of normalcy while simultaneously mitigating the moral hazard problem.

According to Goodfriend & King (1988) discount window lending by the Fed is at

best unnecessary both during times of normalcy and during a crisis because open market operations can effectively liquidate the market without encouraging moral hazard to the extent that discount window lending encourages moral hazard. These authors claim that interest rates may be volatile if the public suddenly demands to hold currency rather than deposits. The Fed can effectively provide liquidity to banks and therefore smooth interest rates through open market operations. In other words, an endogenous increase in the money supply can sufficiently meet the demands of a liquidity shock. Goodfriend & King make the assumption that any bank which goes to the Fed for a loan (whether in response to a system-wide liquidity shock or during times of normalcy) only does so if that bank is unable or unwilling to obtain liquidity through the private market. Then the authors state that if a bank is unable to obtain liquidity privately, then the Fed should consider the bank to be insolvent. These authors claim that the Fed is not better at judging the creditworthiness of a borrower than private lenders. Goodfriend & King conclude that support through the discount window implies supporting insolvent institutions, and supporting insolvent institutions encourages moral hazard.

Anna Schwartz (1992) concludes that the discount window should be abandoned entirely because the Fed has a history of lending to insolvents, and therefore Schwartz supposes the Fed will continue to lend to insolvents thereby risking taxpayer dollars and encouraging moral hazard. Schwartz opposes lending to insolvents because doing so leads to the politicization of the money supply process. The author claims that if an institution is insolvent then it has failed “the market test of viability” and therefore should not be rescued otherwise resources become misallocated and “political decisions substitute for market decisions.” Schwartz agrees with Goodfriend & King that

the Fed should only provide liquidity to the market through open market operations.

George Kaufman (1990) outlines the reasons why open market operations are better than the discount window at providing the market with liquidity. Kaufman concedes that only when the central bank has better information about a particular financial institution's solvency condition should the central bank make use of the discount window for that institution. If the central bank does not have better information than the central bank should assume the institution to be insolvent. Kaufman provides two broad reasons why open market operations should be used rather than discount window lending. These two arguments are relevant because an argument against the Fed being allowed to lend money through the discount window is also an argument against the Fed being able to lend to insolvents through the discount window.

First, Kaufman states in a similar sentiment to that provided by Anna Schwartz that discount window assistance may be influenced by an institution's political connectedness. The government may be inclined to bailout a bank due to its political ties and campaign money contributions. While discount window assistance allows the Fed to direct funds towards any business, open market operations only allow the central bank to direct liquidity towards the 19 primary dealers. Insofar as the government is more likely to provide liquidity for political reasons than are the 19 primary dealers, there is reason to believe that open market operations are more economically efficient than discount window lending.

Second, Kaufman claims that open market operations are better able to price liquidity funding than discount window assistance both during times of normalcy and during a crisis. Open market operations price funding for liquidity at precisely the market

rate for such securities. However, when the Fed lends money through the discount window, the price of these loans is determined by the Board of the Fed. Perhaps the Fed will overprice its loans and hence provide too little lender of last resort assistance thereby not sufficiently preventing a liquidity crisis, or perhaps the Fed will underprice its loans and provide too much assistance thereby encouraging excessive risk taking. Insofar as the market rate for liquidity funds is more efficiently determined than the administratively determined rate at which the Fed prices its discount loans, open market operation assistance is better than discount window assistance.

Charles Calomiris (1994) says, “discount window protection should not be used to save individual firms which are viewed as insolvent by their creditors.” His reasoning is that “allowing corporations to fail is what encourages them to succeed.” Calomiris does not elaborate on this argument.

Flannery (1996) explains that the Fed’s ability to lend money is important for the stability of the financial system because sometimes interbank markets fail to act efficiently. Banks may become reluctant to lend during a crisis period because during such a period the ability to judge the creditworthiness of borrowers becomes difficult due to various factors such as the volatile movement of asset prices. Flannery says that the Fed must weigh the benefits of preventing financial panic against the costs of subjecting taxpayer dollars to privately created costs. Flannery states a central bank should not lend to insolvents but does not give a reason why he opposes the central bank lending to insolvents.

Michael Bordo (1990) claims that lending to insolvents “encourages excessive risk taking, creating the conditions for even greater assistance to insolvent banks in the

future.” While Bordo, Schwartz, and Goodfriend & King all claim that lending to insolvents causes moral hazard problems, it is difficult to measure moral hazard quantitatively because assessing why bankers take certain risks is complicated. To what extent do the investors on Wall Street take into consideration that the Fed may view their investment bank as too systemically important to fail? One can not simply compare the riskiness of institutions that have been bailed out with those that have not, or simply regress the riskiness of banks on the rate and extent to which these banks make use of the discount window because such a comparison or regression would suffer from endogeneity problems.

Dam and Koetter (2012) find that there is empirical evidence of central bank induced moral hazard in the German banking system. They come to this conclusion by regressing bank riskiness onto certain regional political factors which influence the likelihood of bailout but not the likelihood of risk-taking. That is, these authors assume that the German bankers know the likelihood of their bank being rescued by the central bank and take risks accordingly using rational expectations. Bhagat, Bolton, & Lu (2012) find that there is a positive correlation between the size of American financial firms (including investment banks, commercial banks, and life insurance companies) and their tendency towards risk, but it is not clear that the insurance provided by the Fed is what causes big banks to act riskier. Bhagat, Bolton, & Lu use data from 1998 to 2008 to determine whether a cross-sectional variation in the size of financial institutions - as measured by total assets (and using total revenue as a robustness check) - is related to risk taking - as measured by the average return on assets plus the capital asset ratio,

divided by the standard deviation of asset returns (and using the volatility of stock returns and write-downs as two robustness checks).

The reason a lender of last resort *should* be allowed to lend to insolvents is because accurately making the distinction between insolvency and illiquidity can be very difficult (Goodhart, 1999). Insolvency occurs when the market value of assets drops below the market value of liabilities. Illiquidity is when cash reserves are low relative to liabilities. It is no easy task to determine whether a large, multinational corporation is solvent or not, especially in the midst of financial turmoil. The difficulty in determining whether assets are worth more than liabilities stems from the difficulty of pricing assets and liabilities.

Assets may be difficult to price because they are complex, such as collateralized debt obligations or credit default swaps. Asset prices may be difficult to price because they are new. For example, one of the reasons credit rating agencies overrated mortgage backed securities in the mid-2000s was because these financial products were relatively new and the credit rating agencies did not have much historical precedent to determine the value of these securities according to David Faber's *And Then the Roof Caved In*.

The Fed uses mark-to-market pricing in determining the value of a company's assets and liabilities. The mark-to-market value of an asset is its market price at the specific time upon which it is valued, as compared to historical pricing which looks to the history of an asset to determine its value. The mark-to-market valuation method subjects the prices of assets to the mood of the market. A price shock may cause asset prices to drastically decrease in a relatively short period of time. For example, housing

prices and the securities derived from mortgages continued to rise in price throughout the mid-2000s. Housing prices and the price of housing related securities rose due to a bubble in the housing market. A critical mass of investors expected home prices to increase, therefore demand for mortgage related securities increased, and therefore the price of financial securities did increase in a self-fulfilling manner. This sort of self-fulfilling prophecy is precisely what a bubble in any financial sector is. Once the housing bubble bursts, so to speak, confidence in the housing market decreases leading to a sharp decrease in demand for related securities, and therefore the value of such securities falls. Goodhart's argument is dependent on whether or not a financial crisis is going on. During a crisis period the ability to determine a company's worth becomes all the more difficult because a crisis is characterized by sharp movements in asset prices. Further, during a crisis the Fed must act very quickly to stem contagion, and therefore the Fed may decide to lend before properly evaluating an institution's worth.

Goodhart's argument in favor of the Fed being allowed to lend to insolvent businesses implies that in the rare situation where the Fed is somehow able to accurately determine that a particular institution is insolvent, then the Fed *should not* lend to that institution. I contribute to the literature in favor of the Fed being allowed to lend to insolvents by reasoning that even in a situation where the Fed is able to assess a business as being insolvent, the Fed should be allowed to lend to that institution in order to mitigate a liquidity crisis by preventing systemic contagion.

To recap, I have reviewed the literature on the benefits and costs of allowing the Fed to lend to insolvents. Now I will review the literature on the existence and extent of systemic risk within financial sectors. Even though the literature on systemic risk does

not advocate that the Fed should be allowed to lend to balance sheet insolvent institutions, the literature does give persuasion to my analysis that the Fed should be allowed to lend to insolvents in order to mitigate systemic financial crises.

De Bandt & Hartmann's (2000) survey on systemic risk gives considerable, convincing evidence that systemic financial risk poses a serious threat to the real economy. The authors explain why the financial system in particular is so fragile. Firstly, commercial banks and other financial institutions are subject to runs because financial institutions operate through fractional reserve practices. Secondly, financial institutions are codependent on one another's well-being due to the exposures that firms have against other firms. Thirdly, asset prices may fluctuate rapidly and in discord with what rational, 'fundamental' analysis would suggest due to uncertainty amongst investors about the credibility of financial commitments as well as general uncertainty about future prices.

Allen & Gale (2000) use microeconomic stylized models to show how contagion can spread across regions in the banking sector. To begin, the authors explain that banks in different regions having claims against one another acts as a sort of insurance in case one region experiences a small liquidity shock. For example, if Region 1 has excess liquidity and is exposed to Region 2 which has a shortage of liquidity, then it is in the best interest of Region 1 to lend excess reserves to Region 2 so that Region 2 does not go bankrupt. Then the authors explain that if there is a general shortage of liquidity across regions, then the bankruptcy of one region can spread distress to other regions as various regions all try to liquidate their interbank claims against one another within a short period of time.

Freixas, Parigi, & Rochet (2000) explain that insolvent banks do not necessarily fail if the market provides the insolvent with proper liquidity. Because depositors have insurance (such as FDIC insurance), depositors may not liquidate their deposits at an insolvent bank. The authors reason that the ability of insolvent banks to live weakens market discipline and therefore the central bank should provide ex ante monitoring and regulation of individual banks. The authors also argue that the central bank should provide liquidity to the counterparts of a failing insolvent bank. Further, the orderly liquidation of a large, systemically important bank and the protection of creditors of the systemically important bank may not be feasible in which case the failing bank is considered too big to fail.

Giglio (2012) finds that systemic risk, as defined by the likelihood that multiple large financial institutions default within a short period of time and measured using bond prices and credit default swap spreads, increased following the collapse of Bear Stearns and remained high until 2009.

Markose et. al. (2012) provide evidence that certain major financial institutions may rightly be considered too interconnected to fail due to systemic risk exposures amongst institutions stemming from the credit default swap market. The authors construct a US credit default swap financial network and studying clustering of financial products within this network.

Krasue & Giansante (2012) use a stylized theoretical simulation computer model to demonstrate how the exogenous failure of a so called trigger bank can affect other banks depending on variables such as exposure to interbank loans, capital levels, and cash reserves. The authors conclude that the failure of a large bank can lead to the

failure of many other banks.

Kim, Loretan, & Remolona (2010) provide evidence that credit default swap spreads owned by Asian borrowers rose sharply after 2007 because of both a revaluation of risk default rates as well as an increase in the price of default risk which results from a global increase in risk aversion, that is, contagious fear. The authors are able to demonstrate that the price of risk increased in part due to risk aversion by regressing credit default swap spreads in Asian markets on expected default frequencies as determined by Moody's rating agency.

Aragon & Strahan (2009) explain that Lehman Brothers was a prime broker to many hedge funds and therefore offered these hedge funds financing and securities lending services. The authors write that after Lehman's failure, "the accounts of many of [Lehman's] hedge fund clients were frozen, making it impossible for them to trade or to switch to a competing broker." The authors begin by explaining how the failure of Lehman gives rise to a natural experiment. The authors use a cross-sectional regression to show that hedge funds that use Lehman as their prime broker faced a sudden decline in funding liquidity and these hedge funds also were twice as likely to fail shortly following the collapse of Lehman than similar hedge funds who do not use Lehman as their primary broker.

Baba and Packer (2009) provide evidence that the failure of Lehman caused considerable dislocations in the FX swap market, a market in which currencies are traded for one another. The authors analyze three swap pairs: US/Swiss Franc, US/Euro, and US/Pound using an exponential generalized autoregressive conditional heteroskedasticity model. The authors conclude that following the failure of Lehman, the

creditworthiness of US financial institutions was negatively correlated to deviations from covered interest parity implying that the failure of Lehman resulted in a serious global liquidity shortage of the US dollar.

3 Model

Under normal circumstances (that is, not during a financial crisis) the United States' private banking sector has proved to be efficient at lending money to illiquid institutions who want to borrow. But there are two circumstances where the private market can be expected to fail to liquefy an illiquid institution who wants to borrow. First, the private market may not have the means to provide adequate liquidity. For example, during the 2008 Crisis the scope of borrowings required by the major investment banks in order to remain solvent was far too large for any one institution to handle on its own. And there was no system in place whereby multiple financial institutions could pool their money in order to liquefy Wall Street in a timely manner. Secondly, the private market may not have the desire to provide adequate liquidity. Again using the 2008 Crisis as reference, financial institutions did not want to lend to the major Wall Street investment firms because such lending was considered far too risky. It is under either or both of these circumstances - not having the means to lend and not having the desire to lend - that the Fed becomes essential to the well-being of the economy.

In recent years the Fed rescued Wall Street in order to prevent a collapse of the world economy. If the Fed had not lent money to these megabanks, the US economy would have likely succumbed to a serious, long lasting depression. The majority of notable economists agree that it was necessary for the Fed to lend quickly and cheaply

to financial institutions in order to stabilize the financial system, and therefore it was the correct decision to lend. Yet, many notable economists believe that the Fed should not be allowed to lend to insolvent institutions. Especially in light of the Great Recession, this stance against lending to insolvents seems counter-productive. Someone who believes that it was the correct decision for the Fed to bailout Wall Street in 2008, might be correctly inclined to also believe that the Fed should be allowed to save insolvent banks from bankruptcy. After all, the banks that the Fed recently bailed-out were borderline insolvent.

My argument can be better understood using a simple game theory model. After having experienced the Great Recession, it should be fairly easy to imagine a world where the failure of Bank X would cause the financial system to crumble because Bank X is so interconnected to other major banks. Bank X has not yet gone bankrupt, but it is insolvent. Its expected future income is less than its debts so Bank X will go bankrupt in the future (when its debts come due) if it does not receive support. Suppose the private sector is both unwilling and largely unable to support Bank X in a timely and effective manner. Only the Federal Reserve has the means to support Bank X. Should the Federal Reserve be allowed to lend money to this insolvent bank? The answer depends on what would happen to the whole economy if Bank X was allowed to fail. Again, in light of the recent recession, it is entirely plausible to conjure a scenario where the correct decision for the Fed is to bailout Bank X.

It is easy to draw up a game theory model where the expected value of rescuing Bank X is greater than the expected value of not doing so. The model below is a basic 2x2 where Bank X can either receive a government loan or not on the vertical axis, and

Bank X either goes bankrupt or does not on the horizontal axis. The model gives the expected payoffs to society for each outcome as well as the chances of each outcome occurring. The expected payoffs are not of a particular measurement, but are simply meant to represent the effects to the well-being of society.⁵

In the model below, if the Fed decides to lend to Bank X, then there is a 10% chance Bank X will default nonetheless with an expected payoff of -12, and there is a 90% chance Bank X will not default with an expected payoff of -3. If the Fed does not lend to this insolvent bank, then the bank will definitely fail resulting in a payoff of -10. The conclusion to draw from this model is that the expected value of lending to bank X is greater than the expected value of not lending.

	Bank X Fails	Bank X Lives
Option A: Bank X receives loan	- 12 (10% chance)	- 3 (90%)
Option B: No loan	- 10 (100%)	- 3 (0%)

$EV (A) > EV (B)$

More generally, I am providing evidence that this model below may be representative of a future economic situation:

	Bank X Fails	Bank X Lives
Option A: Bank X receives loan	Depression (unlikely)	Recession (likely)
Option B: No loan	Depression (guaranteed)	

These models - albeit being fictional and seemingly arbitrary - are actually quite meaningful because they are realistic of past historical events and potential future

⁵ The payoff can represent the expected percentage change in GDP per capita over the next year, for example.

scenarios. For example, these models resemble the situation faced by the Fed in deciding to bailout AIG. If the Fed did not rescue AIG, the economy may have collapsed into a depression because the world wide payment system would have fallen apart.⁶ According to a 2008 article by the NY Times, “If A.I.G. had collapsed — and been unable to pay all of its insurance claims — institutional investors around the world would have been instantly forced to reappraise the value of those securities, and that in turn would have reduced their own capital and the value of their own debt.” There was very little chance AIG would be lent public money but fail anyway because the Fed could continue to inject money into the company until it was sufficiently propped up. While AIG was not insolvent, it would have become insolvent if not for the bailout! The Fed and the Treasury gave AIG combined financial support totaling \$182.3 billion according to the Treasury’s website. The Fed’s September 16, 2008 online press release states, “The Board determined that, in current circumstances, a disorderly failure of AIG could add to already significant levels of financial market fragility and lead to substantially higher borrowing costs, reduced household wealth, and materially weaker economic performance.” No one could know through some quantitative measure what the failure of AIG would have meant (Sjostrom, 2009). But it was believed that AIG’s bankruptcy would have been potentially catastrophic for the economy, and that is what my models represent.

The case study of AIG provides a counterfactual which validates my models. A case study of Lehman Brothers provides a straightforward demonstration of the

⁶ For more on the dangers of having let AIG fail, see this report issued by AIG themselves: http://abcnews.go.com/images/Business/aig_systemic_090309.pdf as well as the New York Times’ reaction to the report: http://www.nytimes.com/2009/03/03/business/economy/03sorkin.html?_r=0. When reading AIG’s report, it is important to remember that AIG may have overstated the need for their bailout in order to help ensure they would receive a bailout .

economic devastation which occurs following the failure of a large, systemically important institution. In 2008 Lehman Brothers filed for the biggest Chapter 11 bankruptcy proceeding ever with over \$600 billion in assets. Some of Lehman's assets and liabilities were sold to other financial institutions. Most of Lehman's assets were seized by a trustee and then sold, with the liquidated funds being transferred to Lehman's creditors. The collapse of Lehman Brothers resulted in a huge drop in the stock market and a credit crunch which further exasperated the financial crisis.⁷ Some economists, such as Paul Krugman and French Finance Minister Christine Lagarde believe that if Lehman was rescued by the government, then the economic fallout would have been less disastrous because not bailing out Lehman created uncertainty in the market about what would happen to other failing financial institutions (Krugman; Samuel & Wallop). The failure of Lehman had rippling effects throughout the financial world. When Lehman's assets were liquidated upon bankruptcy, asset prices declined throughout the market due to the rise in supply of cheap assets. This depressing of asset prices caused financial institutions to become less solvent as a result of having to write down asset prices.

The takeaway from the case study of AIG is that it was lent money by the Fed because the failure of AIG would have resulted in the failure of many other financial companies and therefore would have led to a general reduction in America's economic welfare. The takeaway from the case study of Lehman is that the failure of Lehman did result in the failure of many other financial companies and greatly deepened the

⁷ This article from the NY Times found here: http://www.nytimes.com/2008/09/16/business/worldbusiness/16markets.html?hp&_r=0 explains that on September 15 2008, the day Lehman filed for bankruptcy, the Dow fell over 500 points, the largest single day drop since the 9/11 terrorist attack.

recession. The failure of Lehman prompted the Fed to rescue AIG so as not to cause further asset price deterioration and further illiquidity amongst financial firms.

The reason the Fed rescued certain institutions on Wall Street was to prevent the spread of contagion. In other words, the Wall Street bailout had everything to do with systemic risk. According to Fed Chairman Bernanke himself:

...allowing Bear Stearns to fail so abruptly at a time when the financial markets were already under considerable stress would likely have had extremely adverse implications for the financial system and for the broader economy. In particular, Bear Stearns' failure under those circumstances would have seriously disrupted certain key secured funding markets and derivatives markets and possibly would have led to runs on other financial firms (Bernanke, 2008).

The financial sector is especially prone to systemic risk compared to other economic sectors. According to Bullard, Neely, & Wheelock (2009) the financial sector is deeply interconnected because financial firms are constantly trading with one another. Often firms have difficulty pricing counterparty risk appropriately due to the complexity and large volume of trades that occur on a daily basis at any particular firm. Pricing counterparty risk becomes all the more complicated when it requires assessing the counterparty's counterparties. Another vulnerability of the financial sector is that it is highly leveraged and often firms fund long term assets with short term liabilities. Therefore financial firms are very susceptible to insolvency resulting from a liquidity shock.

History has shown time and again that systemic risk within the financial sector can lead to economic catastrophe. But we need not look further than the recent financial

crisis to get a good understanding of how systemic risk can ruin an economy. It is important to prevent the spread of financial distress. My models are founded on the assumption that the failure of a systemically important bank would result in the spread of financial distress. The validity of my models can not be known in foresight. Rather, the validity of my models depends entirely on how the government handles the potential future failure of an interconnected institution.

To better understand how the government might handle the potential failure of a systemically important institution, and therefore to better understand the usefulness and validity of my models, one must study the Dodd Frank Act. The Dodd-Frank Act creates the Orderly Liquidation Authority (henceforth abbreviated OLA). The Act states that “It is the purpose of this title to provide the necessary authority to liquidate failing financial companies that pose a significant risk to the financial stability of the United States in a manner that mitigates such risk and minimizes moral hazard.” After receiving a recommendation from the Fed and the FDIC, the Secretary of the Treasury is allowed to place any financial institution into resolution under the OLA, in which case the institution is called a covered financial company (abbreviated CFC). CFCs are put under the receivership of the FDIC. The FDIC can sell the assets of the CFC just as a bankruptcy-court-appointed trustee can sell the assets of a company which has filed for bankruptcy. The Dodd-Frank Act states that creditors and shareholders of the CFC will bear its losses, and the managers and directors responsible for the CFC’s poor financial condition will be fired and will face financial consequences in accordance with their responsibility. Only companies at risk of default (or in default) and which pose a systemic risk to the financial sector as a whole can be placed under the OLA.

How the FDIC handles the potential future acquisition of a systemically important, financially distressed institution is entirely what determines the usefulness and validity of my models. If the FDIC just orderly liquidates a CFC without regard to the systemic risk that the failure of this institution imposes upon other institutions, then my model is valid and meaningful, and therefore the Fed should be allowed to lend to insolvents. On the other hand, if the FDIC quickly and efficiently bails out the creditors of a CFC so as to prevent the spread of financial distress, then the validity of my model weakens, and hence the Dodd-Frank Act is right in limiting the Fed's lending powers.

The FDIC has access to the Orderly Liquidation Fund. This Fund is created by the US Treasury whereby the FDIC essentially borrows from the Treasury.⁸ The Dodd-Frank Act dictates that the FDIC can repay what it borrows from the Treasury in one of two ways. First the FDIC will look to creditors who receive their dues in the liquidation process. If these creditors are paid more than what they would have been paid under traditional bankruptcy court, then the additional pay will be placed in the Orderly Liquidation Fund, that is, it will be clawed-back. If the FDIC still needs more money, it is allowed to do an ex post assessment of large financial companies.

Acharya et. al. (2012) provide two interesting reasons why the Orderly Liquidation Fund may prove harmful in its current form. First, suppose Bank A has lent uncollateralized money to Bank B. Bank A believes that Bank B will soon be placed under the OLA as a received company. Bank A also believes that its loan to Bank B will not be repaid should Bank B be put into receivership, perhaps because Bank A is not a priority creditor. Then it is in Bank A's best interest to call back its loan, that is, "run"

⁸ The Treasury is assumed to have virtually unlimited funds to lend to the FDIC. As the owner of the US currency printing press this assumption is quite accurate.

Bank B. Such a run will only weaken Bank B thereby helping to ensure its fate.

Second, according to these authors, the ex post assessment of financial companies as a means of funding the orderly liquidation of a CFC requires that “prudent financial companies pay for the sins of others.” Such a prudent financial company thereby becomes more illiquid, which is what the Dodd-Frank Act is supposed to prevent in the first place. Furthermore, if prudent companies suspect well ahead of time that the FDIC will take money from them as a means of facilitating the liquidation of a failed company, then these prudent companies may begin to act with more improvidence. The once prudent company may think to itself that if the government is going to take away its profits despite it acting prudently (in fact, because it acted prudently) then it may as well not act prudently in the first place.

Now that I have explained the importance of allowing the Fed to lend to insolvents in order to prevent a systemic financial crisis, I will explain how lending to an insolvent can make it solvent once again.

The mechanism by which lending to an insolvent bank can make it solvent is rather simple. Suppose Bank X is an investment bank that makes money through mortgage loans. Bank X makes a return of \$1.07 (adjusted for inflation) every year for every dollar it lends out. Imagine that last year Bank X purchased billions of dollars' worth of mortgage backed securities which have drastically declined in value since the purchase. Now Bank X has \$500 billion in assets and \$501 billion in liabilities. Suppose, for simplicity, all of the bank's assets are magically liquid and all of the liabilities come due tomorrow. That means tomorrow Bank X will have to default on \$1 billion worth of debt if it does not receive a loan. So the Fed comes along and decides to give the bank

a \$20 billion at 1% APR which the bank is required to payback in full in one year. Tomorrow the bank takes \$1 billion dollars from the government loan, combines it with its \$500 billion of assets, and is able to pay all of its \$501 billion dollars' worth of private debt. After Bank X has paid its \$501 billion debt it will have \$20 billion dollars of liabilities (all of which is owed to the government in one year). Now Bank X lends out the remaining \$19 billion to home-buyers to whom it charges 7% APR.⁹ After one year is up, the home-buyers pay the bank \$20.33 billion and the bank in turn pays the government \$20.2 billion. The bank now has assets \$.13 billion dollars greater than liabilities. Bank X is officially solvent.

In the previous few pages, I presented an original theoretical analysis of the benefits of allowing the Fed to lend to insolvents by modeling the importance of preventing systemic distress. But my analysis would not be complete without a thorough review of the costs of allowing the Fed to lend to insolvents. The *literature review* section of this paper briefly outlines various arguments on the efficacy of lending to insolvents, primarily detailing issues such as moral hazard, the politicization of the money supply process, and the hindering of so called market forces. Over the following few pages of this paper I will present an original economic analysis of the costs of allowing the Fed to lend to insolvents.

Moral hazard

Theoretically, one can make a strong argument against lending to insolvents because of the moral hazard problem. The moral hazard argument may be constructed

⁹ In actuality, Bank X would be required to put a portion of the \$20 billion loan into reserves. While the conventional economics textbook states that Bank X would need to put \$2 billion into reserves (assuming a 10% reserve requirement), in actuality Bank X could put the entire \$20 billion into reserves and lend out \$200 billion. If Bank X did lend out \$200 billion, by the end of the year the bank would have \$213.8 billion of assets greater than liabilities!

as an argument against the Fed being allowed to lend money generally, and therefore one could argue that the discount window should be abandoned entirely. But some economists contend that the discount window is a very useful tool because, and according to the Federal Reserve website:

Although the Window was long ago superseded by open market operations as the most important tool of monetary policy, it still plays a complementary role. The Discount Window functions as a safety valve in relieving pressures in reserve markets; extensions of credit can help relieve liquidity strains in a depository institution and in the banking system as a whole. The Window also helps ensure the basic stability of the payment system more generally by supplying liquidity during times of systemic stress.

Because the discount window serves an important purpose, most economists construct the moral hazard argument so as to oppose the Fed lending to insolvents in particular. According to Allan Meltzer (1985), “the modern reason for permitting insolvent banks to fail is that an understanding by financial institutions that they will not be allowed to fail changes attitude towards risk.” That is, even though the discount window theoretically causes moral hazard which may contribute to the frequency and severity of crises, this is acceptable moral hazard because the discount window is useful. But the additional or marginal moral hazard created from the possibility of rescuing insolvents is unacceptable.

The ability of the Fed to lend to insolvents could theoretically create a lot more moral hazard than if the Fed was only allowed to lend to solvents. Imagine a situation where there is an investment banker who works at a systemically important bank. This

banker is solely motivated by profit. Suppose the amount of profit this banker makes is positively related to the amount of risk he takes. Also suppose that the amount of risk taken by the banker is positively related to the likelihood of the bank defaulting. The probability of the bank defaulting depends upon other factors besides the risks taken by the banker, and the banker is fully aware of this information. The banker knows that if the bank goes bankrupt he will make no profit. But he also assumes the bank will never go bankrupt because the Fed will quickly rescue the bank with cheap loans during times of financial distress. Therefore, it is always in the best interest of the banker to take as much risk as possible in order to maximize his profit. Now imagine a slightly different world where everything else is the same except that the Fed can not lend to insolvents. The investment banker in this second scenario will be much more cautious of the risks he takes because his bank may be prone to insolvency for reasons out of his control. For example, it is realistic to imagine a situation where the price of the bank's assets suddenly drops because a speculative euphoric bubble has burst. In the first scenario the banker did not have to worry about the price of the bank's assets because the solvency of the bank was never a concern, and therefore the banker act very risky in his investments. In the second scenario in which the Fed can not lend to insolvents, the banker believes it is in his best interests to factor in the risk premium for things he can not control, and therefore does not take as much risk as possible. The marginal moral hazard which occurs when the Fed is allowed to lend to insolvents is a bad thing because financial crises are by and large created through excessive, that is, euphoric financial risk taking by major financial institutions (Kindleberger, 2000).

To reiterate, the problem with moral hazard is that it leads to financial crises

which themselves lead to general economic welfare reduction. For example, the 2008 financial crisis led to high unemployment. Another reason against lending to insolvents involves a case in favor of protecting taxpayer dollars. Protecting taxpayer dollars is a function of the quantity and quality of taxpayer-sponsored loans. For example, if the government loans out ten billion dollars at no interest with an expected 90% chance of the loan defaulting, then this is a problem of quality more so than quantity. But if the government loans out one trillion dollars (without interest) with an expected 0.9% chance of the loan going unpaid then this is more so a problem of quantity. In each case the expected loss of taxpayer money is the same - nine billion dollars, but the reasons for this loss are not the same.

Allowing the Fed to lend to insolvents likely increases the risk to taxpayers both for reasons of quantity and quality. As regards quantity, in a world where the Fed is allowed to save insolvents, investment banks are incentivized to be more risk seeking than in a world where only solvents are rescued, all else equal. Because allowing the Fed to lend to insolvents induces moral hazard, there is a greater chance that the Fed will need to actually use its lending powers. The Fed necessitates its own existence in a vicious cycle. As moral hazard increases, so does the likelihood of the need for the Fed to act. In summary, allowing the Fed to lend to insolvents increases moral hazard, thereby increasing the likelihood that the Fed will need to lend to financially distressed institutions, thereby increasing the quantity of public money being loaned to private institutions over any given period of time.

As regards quality, from a purely theoretical perspective there is reason to believe that loans to an insolvent bank are less likely to be repaid than loans to a

solvent bank all else equal. Consider the comparison between insolvent, liquid Bank I and solvent, completely illiquid Bank S. Suppose Bank I has \$5 worth of liquid assets and \$10 worth of liabilities; Bank S has \$10 worth of illiquid assets and \$5 worth of liabilities.¹⁰ Suppose the entirety of each banks' liabilities will come due tomorrow. Each bank requires a loan from the Fed today in order to avoid defaulting on its debts tomorrow. Bank S requires a \$5 loan in order to pay its debts tomorrow. This loan is risk free, assuming Bank S's assets are properly valued, because Bank S can offer \$5 worth of collateral to the Fed. Bank I also requires a \$5 loan which, when combined with its \$5 of liquid assets, will allow Bank I to repay its \$10 of debt tomorrow. The loan to Bank I is risky because Bank I does not have any collateral to offer. This example should make it clear that the likelihood of a loan being repaid is directly related to the level of solvency. In other words, the likelihood of a loan being repaid is indirectly related to the debt/equity ratio (= total liabilities divided by total assets).

Protecting the taxpayer ultimately has to do with the probability a company who borrows from the government will not pay back the loan in full. I have demonstrated that the level of insolvency is directly related to the ability of a business to pay back a loan for theoretical quantitative and qualitative reasons. There are other reasons that an insolvent bank is more likely to default on a loan than a solvent bank. Insolvent banks usually have more difficulty raising capital through the private market than solvent banks because, all else equal, an insolvent bank has less ability to provide collateral in exchange for funding than a solvent bank. The insolvents relative lack of access to funding opportunities means that the insolvent has less access to all the things such funding could provide. Insolvents are less capable of engaging in "profitable investment

¹⁰ If Bank I has illiquid assets, the takeaway from this example becomes all the more pronounced.

opportunities” (Caprio Jr and Klingebiel, 1996).

The debate about lending to insolvent businesses regards the economic assumption that public money should not be subjected to private costs. In other words, costs which are created by private means should be internalized. Below I briefly elaborate on the ways in which subjecting costs or regulations onto different private actors can help prevent the moral hazard problem. I look at three actors that partially compose a publically traded company: key executives, shareholders, and creditors.¹¹

It is unclear among economists, politicians, and the general public who should be held responsible for a systemically important bank’s loss making decisions. Still, there is a rather broadly accepted sentiment that key bank executives - those in managerial, superior, and leadership positions - should be held responsible for their own bank’s shortcomings. Common sense tells us that holding executives responsible will reduce moral hazard. But what does being held responsible look like? The extent to which executives are held responsible largely determines the extent to which moral hazard is arrested. Suppose Congress were to enact an absurd law stating that if the Federal Reserve deems it necessary to bailout a particular bank (as a means of protecting the whole financial system), then the bank’s top executives will be sentenced to death! Surely banks will face almost no moral hazard problem going forward. The bank executive’s would be far too scared of threatening their own livelihood just to chase speculative profits. However, if instead of the death penalty executives expect to receive golden parachutes then the moral hazard problem will likely persist. The Dodd-Frank Act’s “say-on-pay” section requires that sufficiently large companies let shareholders

¹¹ I consider publically traded companies in particular because the financial crisis of 2008 revolved around publically traded companies on Wall Street such as Bear Stearns and AIG.

vote on the pay and golden parachute compensation scheme of top executives at least once every three years (sec.gov). Executive bonuses and more generally employee bonuses of financial institutions are often tied to the value of the financial institution (as determined by the stock price). From society's point of view, it is important that financial institutions do not take excessive risks which jeopardize the stability of the financial system as a whole. When executive pay is tied to the value of the company, the executive is inclined not to take overly excessive risks so as not to threaten their own bonus compensation. However, executives can hedge against the fall of value of their company's shares (through various financial instruments) and therefore are not entirely inclined to care about the value of their own company. The Dodd-Frank Act regulates the extent to which employees can hedge against the fall in value of their own company. Finally, in determining the ideal extent to which executives should be held responsible, it is important to remember that key executives may have sole access of information about their company, and this information may prove useful to the Fed. Therefore, firing executives too soon may be costly to the economy as a whole.

Should shareholders be held responsible for a bank's loss making decisions?

From a theoretical perspective there is reason to believe that shareholders may exacerbate the moral hazard problem. The institutions on Wall Street tend to be corporations. Corporations separate the management functions of the company from its ownership functions. The owners of a corporation fall under a different set of laws than the corporation itself. The owners of a company, for the most part, can only influence management through shareholder meetings and voting. But insofar as the owners of a company can and do influence management, there may be a moral hazard problem. If

the owners of a company recognize that the company is too systemically important to fail, then the owners may be incentivized to influence the company into making riskier decisions. This moral hazard problem arises due to the limited liability faced by the owners. A shareholder of a corporation is not liable for the corporation beyond the amount invested by the shareholder. This means that if a corporation has liabilities even after its stock price reaches zero, the owners of the company are not held liable.

Creditors do not contribute to the moral hazard problem because creditors are not responsible for the decisions a financial institution makes. But does this mean creditors should not be held responsible for a bank's loss making decisions? State and federal bankruptcy law dictates that creditors who are promised collateral are entitled to that collateral. Creditors who are not promised collateral, also known as unsecured creditors, may get very little of what is owed to them in a bankruptcy proceeding depending upon their status of priority compared to other unsecured creditors. While creditors do not contribute to the moral hazard problem, perhaps creditors can help mitigate it. For example, if bank depositors were inclined to look into the soundness of their depository institution, then more sound banks would probably receive more deposits. Therefore banks would be incentivized to take less risks in order to attract more creditors.¹²

While a strong theoretical argument can be made against allowing the Fed to lend to insolvents on the grounds of moral hazard, in reality the (marginal) moral hazard problem is probably quite small. There is no convincing empirical literature on the existence of moral hazard as created by the Fed's ability to lend to insolvents. While there is some debate that lowering the target federal funds rate as a means of

¹² I am not advocating for the removal of FDIC deposit insurance.

combatting a bear market can lead to moral hazard, this is not directly related to the Fed's ability to lend to insolvents.¹³

Politicization of the money supply process

When the Fed lends money to rescue a single institution, this may be viewed as a political move, at least in part. In fact, some economists like Anna Schwartz argue that the general act of the Fed lending money - even if done through the discount window during times of normalcy in order to relieve temporary liquidity strains - is a political act as well as economic. Ideally the Fed lends money with the sole intention of fulfilling its mission of economic prosperity through stable prices and full employment to the best of its ability. Should the Fed lend money for political reasons - which some economists describe as subsidizing a financial institution - one can only hope those political reasons happen to coincide with the Fed's mission of maximum economic prosperity.

The Dodd-Frank Act limits the Fed to only lending to financial institutions through facilities with broad based eligibility.¹⁴ Congress' limitation on Fed lending is done for the purpose of depoliticizing the money supply process. Congress' limitation on Fed lending was partially enacted in response to the recent Fed bailout of Wall Street, which the public viewed as a political act. The Fed will of course not admit that it rescued certain institutions but not others for political reasons. Still, one can not help but to wonder what would have happened if the CEO of Lehman Brothers was better friends with Fed Chairman Bernanke.

The decision by the Fed to rescue AIG may have been a politically motivated decision. But it is important to remember that AIG was a solvent company. With that in

¹³ More information on open market operations inducing moral hazard, term the 'Greenspan put', can be found here: <file:///C:/Users/Administrator.lokuta52-PC/Downloads/120801-fed-complacency.pdf>

¹⁴ The Fed can continue to lend to individual commercial banks through the discount window.

mind, it becomes clear that the argument that the Fed should not be allowed to lend to insolvents for political reasons is actually a very narrow argument.

Pricing liquidity

When the Fed sells securities on the open market, the price is determined through bidding amongst the 19 primary dealers. When the Fed buys securities the price is determined by the seller and agreed upon by the Fed. In either case, the price of the security being bought or sold is said to precisely reflect the security's market price, that is, the price is determined by the so called 'market.' Now, when the Fed lends money through the discount window the price of the loan is determined by the Fed, that is, the price is administratively determined. Open market operations are therefore considered better or 'more efficient' at pricing liquidity than the discount window.

At the end of 2007 until 2010 the Fed implemented the Term Auction Facility. The purpose of this lending facility was to increase the anonymity of depository institutions borrowing from the Fed and to therefore increase the overall borrowing from the Fed. The Fed wanted to lend to banks in order to counter the private market credit crunch. The Term Auction Facility allowed the Fed to lend money that was priced through an auction and therefore resembled economically efficient pricing, that is, market determined pricing.¹⁵

There is a strong argument to be made that open market operations are more efficiently able to price liquidity than the discount window. But the argument that the Fed should not be allowed to lend to insolvents in particular is a very weak argument. Such an argument assumes that it would be best for an insolvent firm to receive liquidity either directly through the open market or indirectly from the 19 primary dealers who

¹⁵ The minimum bid through the Term Auction Facility was administratively chosen by the Fed.

themselves had received the liquidity from the open market. The argument is weak because the 2008 Crisis has demonstrated that sometimes systemically important institutions need a loan quickly at a time when private credit has 'dried up'.

Redistribution of wealth

Another argument against lending to insolvents and more broadly against central bank lending in general is that it contributes to income inequality through the redistribution of wealth. The Fed has a tendency to sell money to financial institutions very cheaply. The Fed lends money to commercial banks through the discount window, to investment banks through temporary open market operations, and to financial institutions generally through non-traditional facilities such as those created in response to the 2008 Crisis.¹⁶ For example, in 2008 the Fed lent money to banks at a rate barely above the target federal funds rate. Again, despite being at a penalty rate, the money the Fed lent in 2008 was still very cheap because the Fed had drastically lowered the target federal funds rate to almost zero. Subsidizing banks allows banks to become very wealthy - and the reasoning why is quite straightforward. First, the Fed lends money to financial institutions. Next, the financial institutions lend money to the public at high interest rates. That's it. This simple two-step process generates massive income inequality as evidenced by the incredible incomes for which bankers are known to have. Banks and other financial service providers earn income from the spread between the interest rate at which money was lent to them and the rate at which it is lent out to businesses and individuals. The Fed has only ever lent money to private financial institutions. Anyone or anything which is not a financial institution is lent money at a

¹⁶ Temporary open market operations are a form of repurchase agreements whereby the Fed lends money to investment banks in exchange for securities as collateral.

more expensive rate than the rate that the Fed charges to financial institutions.

Hindering market discipline

St. Louis Fed President James Bullard states in an online Forbes article, ““By denying funding to Lehman suitors, the Fed has begun to reestablish the idea that markets should not expect help at each difficult juncture.” While the failure of Lehman resulted in a serious decline in the general economic welfare of the country, Bullard does bring up an interesting point about the problem with government bailouts.

Market discipline is a vague idea rooted in Adam Smith’s Invisible Hand theory which states that a market free from government intervention will flourish. From a common sense perspective, it makes sense that if the government always allows insolvent businesses to fail, that is, to go through bankruptcy proceedings or be put under FDIC resolution, then newer and better businesses will have the opportunity to emerge. The argument against lending to insolvents on the grounds of hindering market discipline is a valid argument. But it is important to remember that when the Fed rescues a solvent institution on the verge of bankruptcy, such an action by the Fed hinders market discipline even though it does not involve lending to an insolvent. The ‘hindering market discipline’ argument against lending to insolvents is really a marginal argument. That is, the concern is the additional or marginal hindering of market discipline created by the Fed being able to lend to insolvents above and beyond the baseline hindering of market discipline that results from the Fed being able to lend to solvents.

Conclusions

Ultimately, we want a financial system that is competitive, efficient, and

innovative. We do not want a financial system where benefits are privatized and costs are publicized. Many economists argue against lending to insolvent institutions on account of how doing so hinders getting what we want from our financial system and exacerbates getting what we do not want. This is justified. If the Fed is allowed to lend to insolvent institutions then competitiveness, efficiency, and innovation are hindered. If the Fed is allowed to lend to insolvent institutions then there is a greater chance that privately-created financial costs will be made public. If the Fed is allowed to lend to insolvents then there is reason to believe that financial crises will occur with greater frequency and severity. My argument is that, in spite of these concerns, the Fed should be legally allowed to lend to insolvent institutions in order to prevent a systemic breakdown of the entire financial system that very well may occur resulting from a future Wall Street liquidity crisis. I advocate that the Fed should be allowed to save particular failing institutions not for the narrow purpose of solely helping the insolvent institution, but rather for the purpose of helping the economy as a whole by preventing a full-blown economic depression.

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