

Rockoff, Hugh

Working Paper

Milton Friedman on Bailouts

Working Paper, No. 2021-01

Provided in Cooperation with:

Department of Economics, Rutgers University

Suggested Citation: Rockoff, Hugh (2021) : Milton Friedman on Bailouts, Working Paper, No. 2021-01, Rutgers University, Department of Economics, New Brunswick, NJ

This Version is available at:

<https://hdl.handle.net/10419/246488>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

November 5, 2021

Milton Friedman on Bailouts

Hugh Rockoff
Department of Economics
Rutgers University, 75 Hamilton Street
New Brunswick NJ 08901
Rockoff@economics.rutgers.edu

Preliminary. Comments and criticisms welcome.

Abstract

This paper analyzes the evolution of Milton Friedman's thinking about bailouts. It covers bailouts of commercial banks, shadow banks and other financial firms, manufacturing firms, governments, financial markets, and other cases where the term is commonly used. It is based on his academic writings and on the many interviews, op-eds, letters to the editor, and so on through which he communicated his views during and after his transition from professor to public intellectual.

Acknowledgements

This paper was written for a special issue of the *Journal of Financial Stability* to be edited by George Tavlas. In addition to professor Tavlas, I thank Michael Bordo, Tyler Cowen, Sebastian Edwards, J. Daniel Hammond, Robert Hetzel, Leonidas Montes, and Edward Nelson for their willingness to share their knowledge and for their comments on previous drafts. My greatest debt is to Eugene White for the planning we did at the start of what was to be a joint paper. Unfortunately, the press of other commitments made it impossible for him to share in the writing and his devotion to academic fairness then prevented him from accepting a co-authorship. The willingness of these scholars to help does not imply that they agree with the conclusions I have drawn. The remaining errors are mine.

1. Introduction

During the financial crisis of 2008 when many controversial bailouts were undertaken people often asked what would Milton Friedman say about them. It was a natural question. Friedman was one of the leading economists and monetary historians of the twentieth century, and especially important, one of the leading experts on banking panics, especially the panics of the Great Depression.

On the one hand, Friedman's long-time co-author and collaborator Anna J. Schwartz (2008), criticized the bailouts in an interview for the *Wall Street Journal* and told the interviewer, Jack Willoughby, that the one thing she regretted was "that Milton Friedman isn't alive to see what's happening today." She thought that Friedman would have had the stature to persuade the Fed and the Treasury to think about the risks of inflation and change their policies. In a subsequent interview with Kai Ryssdal for National Public Radio Schwartz (2009) argued that the Fed and Treasury should not have bailed out Bear Stearns and other firms during the financial crisis. The Fed should have told these firms

If you cannot raise capital in the market, there is no reason for the government, the people of the country, to provide capital.

When Ryssdal pointed out that this had been tried with Lehman Brothers, Schwartz argued that difference between the “kindly fashion” in which the Federal Reserve had treated Bear Stearns and harsh way it treated Lehman Brothers had left the market “bewildered.”

Similarly, Michael Bordo (2014a, 2014b), a student of Friedman and long-term collaborator with Schwartz, argued that the bailout of Bear Stearns encouraged risk taking that made the panic that followed the failure of Lehman Brothers worse than the panic that might have followed the failure of Bear Stearns. The lesson, Bordo concluded, was that the Fed needed to take a rules based approach to its lender of last resort policy.

There were, however, dissenters. Tyler Cowen (2009), a well-known economist who, among other accomplishments, is one of the authors of the widely read blog “Marginal Revolution,” argued that the bailouts in 2008 were a good idea and that Friedman would have approved of them. And Edward Nelson (2020, 75), the author of monumental studies of Friedman’s work pointed to Friedman’s support of the Continental Illinois Bailout and his support for Reconstruction Finance Corporation lending to banks in the 1930s – more on these below – as evidence that Friedman might not have opposed all of the bailouts in 2008.

Alternative interpretations are possible because Friedman never wrote an essay specifically addressing when and how the government should bail out a financial firm. However, he did comment on many bailouts over the course of his long career as an academic and public intellectual. Here I examine these comments, explain the historical circumstances, and attempt to identify the underlying principles.

What ties together Friedman's responses to bailouts turns out to be straightforward while at the same time making it difficult to deduce a simple set of rules from them: He evaluated bailouts in terms of costs and benefits. The main costs of a bailout for a manufacturing firm, for example, are that an inefficient firm is kept in business and other inefficient firms may decide to remain in an industry or to enter it because they think that if they fail they will be bailed out – moral hazard. However, there are also benefits from bailouts. Employees, shareholders, and the community in which the firm is located will benefit, although their benefits will be offset in some measure by the costs to taxpayers and to competitors of the firm that is bailed out.

In the case of financial firms, however, there could be another important benefit: the bailout may assure holders of short-term debt in other financial institutions that their assets are safe – the bailout may prevent a panic. Friedman's evaluations of bailouts was determined by how he

evaluated these costs and benefits. In predicting costs and benefits when bailouts were under discussion he relied on analogies with similar historical cases.

I have relied primarily on Friedman's academic writings and his interviews, op-eds, and so on through which he communicated his views during and after his transition from academic to public intellectual to build my picture of Friedman on bailouts. These provide a rich mine of information because Friedman was extraordinarily articulate and fearless in expressing his opinions.

Here is the roadmap. Section 2 defines a bailout. Section 3 examines the bailouts that Friedman and Schwartz discussed in *A Monetary History* and their discussion of Bagehot. Section 4 discusses bailouts after the publication of *A Monetary History*, such as the bailouts of Continental Illinois in 1984. Section 5 focuses on bailouts of shadow banks. Section 6 considers bailouts of industrial firms, governments, and the stock market. Section 7 summarizes the main conclusions.

2. What is a Bailout?

The term "bailout" is used in a variety of circumstances. A common case occurs when the government helps a private firm such as a bank pay its

bills – perhaps by providing cash as a loan or as capital. In many cases, however, the government provides help in some other way. It may arrange a merger of an insolvent firm with one or more healthy firms, or it may arrange for other firms to guarantee the value of the assets of the troubled firm. If the arrangements were such that little or no public money was directly at risk, some economists would prefer another term such as rescue or lifeboat operation, in part to avoid the harsh connotations that accompany the term bailout. Of course, a private firm that is aiding a potentially insolvent firm at the behest of the government has probably concluded that it has earned the goodwill of the government. It is hard to put a dollar value on goodwill; nevertheless, something of value was transferred. Thus, while rescues and lifeboat operations need to be distinguished and their special features analyzed, I will treat them as subdivisions of the broad category of bailouts.

The term bailout is also used in many other cases. For example, when help is given to a distressed country, political subdivision, or market. In these cases, which I will discuss in section 6, finer distinctions may also be of value. Bordo and Schwartz (1999, 687-88), for example, distinguish between the international “rescues” carried out before the 1990s characterized by temporary loans and remedial policies and the

international “bailouts” carried out afterwards mainly to offset losses of foreign banks.

3. Bailouts in *A Monetary History*

3.1 From 1867 to 1930

I begin with bailouts in *A Monetary History*. “Bailout” to be clear, is a term that Friedman and Schwartz do not use, perhaps wisely. However, I use it in the way that it is now commonly used to describe any form of help provided for struggling, possibly failing, institutions. There are earlier materials in Friedman’s oeuvre that concern our theme, and a few will make an appearance below. However, *A Monetary History* is the best place to begin because it reflects intense study of the financial panics after the Civil War, including those panics that appear to have been triggered by the failure of important financial institutions that might have been candidates for bailouts.

Friedman and Schwartz discuss the major panics that occurred in 1873, 1893, and 1907 and the minor panics in 1884 and 1890. Of these, they discuss three that they believe were triggered by the failure or near failure of an important financial institution: the panic of 1873 by the failure of Jay Cooke and Company in Philadelphia, the panic of 1890 by the

troubles of Baring Brothers in London, and panic of 1907 by the troubles of the Knickerbocker Trust Company in New York.

Friedman and Schwartz note the failure of Jay Cooke and Company – an institution that would now be called a shadow bank – but do not comment on the wisdom of a bailout.

They also note the impact in the United States of the troubles at Baring Brothers in 1890 – troubles they say “touched off a final display of panic” (1963, 104) in the U.S. and contributed to the “subsequent severe contraction in England” (1963, 105).

The Barings received help from the Bank of England that included overseeing the extension of loans by a syndicate of major banks (Schwartz 1987, 278; White 2016). Although *A Monetary History* does not comment on these actions, Friedman and Schwartz were undoubtedly aware of them and of the favorable evaluations of them made by financial historians. Two of the sources on which they most relied in preparing *A Monetary History* were Sprague (1910) and Mitchell (1913). Sprague (1910, 419) referred to the bailout as “skillful financiering” and Mitchell (1913, 48) claimed that without the intervention a “serious panic might have followed.”

The incident, moreover, sheds some light on Friedman and Schwartz’s understanding of how financial panics take hold and spread.

Evidently, the failure or near failure of a single financial institution, even one in London, could start a panic in the United States. Similarly, when discussing the failure of the Kreditanstalt and the banking problems in Germany in 1931, they (1963, 314) write that “financial panic is no respecter of national frontiers.” Clearly, this view of the origin and transmission of panics strengthens the case for helping major banks when they run into trouble. If a panic can spread rapidly over great distances, like a virulent infection, it is important to quell it at the source.

The trigger for the Panic of 1907 was the closure of the Knickerbocker Trust Company in New York on Wednesday, October 22, 1907, after a run.¹ In discussing this episode, Friedman and Schwartz are clear that help for the Knickerbocker Trust would probably have been a very good thing.

Order seemed to have been restored [to the banking system] by Monday, October 21, when the Knickerbocker Trust Company, the third largest trust company in New York with deposits of \$62 million, began to experience unfavorable clearing house balances as a result of connections with the banks that were initially in trouble. A run on the company the next day forced it to suspend. *Had the Knickerbocker been a member of the Clearing House, it probably would have been helped, and the further crisis developments might*

¹ See Frydman, Hilt and Zhou (2015) for a full account of the origins and consequences of the panic.

thereby have been prevented. [Our italics, Friedman and Schwartz 1963, 159].²

Help depended crucially on the famous investment banker J.P. Morgan, the acknowledged leader of Wall Street. Morgan was skeptical about the solvency of the Knickerbocker. Indeed, the decision by the National Bank of Commerce (commonly known as J.P. Morgan's bank) to discontinue clearing for the Knickerbocker had been one of the precipitants of the run. Morgan, however, was also concerned with the incipient panic in New York, and ordered an investigation of the Knickerbocker's books to see if help was justified. On Monday night, October 21, the books of the Knickerbocker were examined by one of Morgan's lieutenants Benjamin Strong Jr. Strong, who incidentally, would later become famous while serving as governor (president) of the Federal Reserve Bank of New York. Strong reported that the Knickerbocker was insolvent, perhaps confirming Morgan's suspicions, so no help was forthcoming.

Friedman and Schwartz do not take a stand on whether the Knickerbocker was solvent when it suspended. This may be because the sources they relied on most, Mitchell (1913) and Sprague (1910), were not

² Sprague (1910, 253) noted that while the Knickerbocker was not a member of the Clearing House it was the only Trust Company that had agreed to keep a reserve in the Clearing House in order to maintain clearing house privileges, and he thought the Knickerbocker therefore deserved special treatment.

in agreement. In a footnote Mitchell (1913, 516) concluded that “Subsequent events proved that the company was solvent and might have been saved from passing into the hands of receivers.” Sprague (1910, 252), however, was more circumspect. He thought that “the condition of the assets could not have been hopelessly unsatisfactory” because the Knickerbocker was able to resume in March 1908; but added that the reorganization plan under which the resumption took place “showed that the assets of the company were even then far from being in liquid condition.”

The United States did not have a central bank in 1907. Indeed, it was this crisis that led ultimately to the establishment of the Federal Reserve in 1913. There were, however, a number of responses in private markets and, perhaps surprisingly, by the Bank of France that ameliorated the effects of the panic (Rodgers and Wilson 1911; Rodgers and Payne 2014).

3.2 The Bank of United States

On December 11, 1930, the Bank of United States (BoUS) failed. It was the largest bank failure by deposits in the United States to that date. It plays an important role in the analysis of the Great Depression in *A Monetary*

History and in Friedman's subsequent thinking about how the monetary authorities should respond to a major bank failure.³

Friedman and Schwartz discuss the failure in a frequently cited section of *A Monetary History* (1963, 309-11) that includes a long footnote that reports the futile efforts made to save the bank by merging it with several sound banks with the losses those banks might have experienced insured by the Fed. There they (1963, 309) argue that this failure "was of especial importance." Their main evidence is the behavior of the monetary aggregates. The ratio of currency held by the public to deposits and the ratio of reserves held by banks to deposits both began to rise after the failure of the BoUS signally a flight to the safety of cash by both the public and the banks. These series are plotted in Chart 1. As a result, the stock of money, already declining, began declining at a faster pace.⁴

Of course, other things were happening in late 1930. Friedman and Schwartz (1963, 308) drew attention to a "crop of bank failures" in the South and Midwest that preceded the failure of the BoUS, and then point

³ Nelson (2020, 217-18) describes in detail the role of the failure of the BoUS in the evolution of Friedman's critique of the Fed's policies during the early 1930s.

⁴ They also offer a statement by an upstate New York banker (indirectly via the diary of a Fed official) that the failure had weakened confidence not only in the banking system, but also in the Federal Reserve itself (Friedman and Schwartz 1963, 357).

out that these failures would have had broader effects because a “contagion of fear” ... “knows no geographical limits.”

Another possibility, although I must admit it is based purely on conjecture, is that their conclusion about the especial importance of the failure of the BoUS was based in part on personal recollections. The BoUS was based in the famous Lower East Side of New York and dealt with a largely Jewish clientele. Friedman, who was from a Jewish family in Rahway New Jersey, was 18 at the time the BoUS failed. Anna Schwartz who was from a Jewish family in the Bronx was only 15, although already a student at Columbia. Probably both were aware of the failure of a large bank in New York City with close ties to the Jewish Community.

Elmus Wicker (1980, 1996), stressed another possible trigger for the banking crisis: the failure of Caldwell and Company, the leading southern investment bank, in November 1930. Although sometimes considered an alternative trigger for the panic, it seems to me likely that the two failures reinforced one another. The news that large, storied institutions had failed in different parts of the country would have increased the level of anxiety about the safety of the banking system, a one-two punch.

While Friedman and Schwartz thought that the failure to bailout the BoUS seriously damaged the economy, the mistake could have been

overcome, they argue, if the Fed had adopted a policy of rapidly increasing the stock of money. There were signs of a revival of the economy in the first months of 1931, and Friedman and Schwartz (1963, 313) conclude that

Perhaps if those tentative stirrings of revival had been reinforced by a vigorous expansion in the stock of money they could have been converted into a sustained recovery.⁵

Friedman would later argue that without an expansionary push from monetary policy even a bailout of the BoUS would not have saved the day. The economy would have continued to deteriorate and some other large bank would have failed, starting a panic.

Peter Temin (1976, 90-94), Joseph L. Lucia (1985), and Anthony Patrick O'Brien (1992) challenged Friedman and Schwartz's interpretation of the failure of the BoUS. The main issue was whether the BoUS was insolvent or merely illiquid when it closed.⁶

Friedman and Schwartz (1963, 311) had claimed that the bank was solvent because in the end the Bank's depositors were paid "83.5 percent of its adjusted liabilities," and that this was realized in the depths of the

⁵ The argument is also summarized in Friedman (1962, 46-49).

⁶ Another issue addressed in the debate was Friedman and Schwartz's claim that anti-Semitism played a role in the decision by the Federal Reserve and the New York banking establishment to allow the Bank of United States to close.

depression, suggesting that the bank was solvent and strengthening the case that it should have been helped. Temin (1976, 93), however, pointed out that only \$0.60 per dollar was paid to depositors in the first two years, and that part of that was from the simultaneous cancelling of debts and deposits. He concluded that “this is not compelling evidence of solvency.” O’Brien (1983, 83). accepted 83.5 percent, but he was skeptical of a higher figure of 92.5 percent that Milton and Rose Friedman reported in *Free to Choose*. Lucia and O’Brien concluded that since the payouts occurred gradually during the 1930s the present value of those payouts would have been far less than their book value in 1930. These are good points, but they did not address Friedman and Schwartz’s point that the assets were liquidated during the most depressed years of the century. In any case, disagreement is not surprising. Whether a bank is solvent is to some extent a matter of judgment. A bank’s balance sheet is, to use Gary Gorton’s (2014) term, opaque.

Temin (1976, 94) also dismissed the claim that the failure turned an incipient panic into a full-fledged panic.

The failure of the Bank of United States was a special case, connected intimately with the personalities of its officers and speedily linked to fraud and dishonesty. There is little reason to think that holders of bank deposits generalized these traits to all bankers as a result of this single failure.

The BoUS, however, enjoyed a good reputation for many years based partly on the fact that it had survived the Panic of 1907 when similar institutions had failed. Therefore, the revelation of wrongdoing may have taught depositors a different lesson: that their funds were at risk even in a bank that once had had a reputation for prudence.⁷

Suppose the BoUS was insolvent. Would a bailout have been justified in the interest of macroeconomic stability? Lucia and O'Brien do not address the issue. Temin thought that while a bailout might have provided some relief for the stakeholders in the BoUS and the community it served, it would not have influenced the course of the economy because Temin believed the Depression was caused by an autonomous fall in consumption spending and not by monetary forces.

Friedman and Schwartz (1986a) in their reply to Lucia insist that the failure of the Federal Reserve to aid the BoUS, although a mistake, was not the biggest mistake made by the Fed. Far more important was the failure to push the stock of high-powered money to a level that would have maintained the aggregate stock of low-powered money. This point was reiterated in Part 3 of Friedman's PBS television series *Free to Choose*, an

⁷ Rockoff (2021) argues that typically U.S. panics were triggered by failures of banks with sterling reputations.

episode first aired in 1980. Friedman again drew attention to the failure of the BoUS. In one scene, he stands in the doorway of the building that housed the bank, and in another, he stands in the room at the New York Fed where the bailout of the BoUS was debated and rejected. A casual viewer could be forgiven for concluding that Friedman thought that the Great Depression would have been prevented had the decision gone the other way. However, as Friedman remarks later in the episode, he did not believe this was the case: if the BoUS had been bailed out, but there were no other changes in Fed policy, some other large bank would have failed and started the banking panic that produced the Great Contraction.

In the book based on the television Series, Milton and Rose Friedman (1980, 80) put it clearly.

Given the decentralized structure of the U.S. banking system plus the policy that the Federal Reserve System was following of letting the money stock decline and not responding vigorously to bank failures, the stream of minor failures would sooner or later have produced runs on other major banks. If the Bank of United States had not failed when it did, the failure of another major bank would have been the pebble that started the avalanche.

Although it was just a pebble, Friedman frequently returned to the failure to bail out the BoUS as an important lesson for policy makers.⁸

⁸ In *A Monetary History* Friedman and Schwartz (1963, 419), consonant with the importance they sometimes assign to the failure to bailout the BoUS, refer to “the *rock* that starts a landslide (my italics).”

While I am restricting this discussion to cases that Friedman wrote about explicitly, I should note that it is likely that he was aware of other cases in which help for important banks had an impact when it was or was not forthcoming. For example, Friedman and Schwartz do not discuss the failure of the Walsh Banks in Chicago in 1905. However, Friedman (1950, 475) noted that Wesley Mitchell had pointed out that these failures had not started a panic that interrupted the economic expansion then underway. And Friedman and Schwartz might well have been aware of the help received by the depositors of the Walsh banks discussed in James (1938, 717-19) one of the sources they use.

3.3 The Reconstruction Finance Corporation

According to Friedman and Schwartz many banks needed capital during the early 1930s.

One important factor [undermining the banking system] was the drastically weakened capital position of the commercial banks, which made them extremely vulnerable to even minor drains. [Friedman and Schwartz 1963, 330]

One way of addressing the problem was open market purchases of securities, which would have raised the value of bank assets.

Unfortunately, the Fed ended its open market purchases in August 1932.

Friedman and Schwartz concluded that there was another way to help them. In January 1932 President Hoover had signed the bill that established the Reconstruction Finance Corporation (RFC). The purpose of the RFC was to help smaller banks that were not members of the Federal Reserve System as well as some of the railroads that were in severe distress. This created another possible source of help for the banks.

Alternatively, Reconstruction Finance Corporation funds could have improved the situation if they had been made available in the form of capital. (Friedman and Schwartz 1963, 330)

Why capital and not loans? In a footnote Friedman and Schwartz (1963, 330-331, n43) explained that RFC loans had “gutted” banks by taking their good collateral, allowing them to pay some depositors if the bank was liquidated while leaving others in a worse position. Injecting a sufficient amount of capital would have allowed a bank to pay all of their depositors, while retaining their good assets, lessening the chance of a run.⁹

Conceivably, such injections could have been restricted to banks that were technically solvent, but suffering from short-term liquidity issues. However, given the state of the banking system, it is clear that Friedman

⁹ Nelson (2020, 75) also noted Friedman and Schwartz’s positive view of RFC lending when he addressed the claim that Friedman would have opposed the 2008 bailouts.

and Schwartz thought that injections of capital into banks that were insolvent or nearly so would have been helpful.¹⁰

The main beneficiaries of RFC capital injections would have been depositors. Shareholders might have gained if banks that otherwise would have failed could be kept in business, to become profitable later. However, shareholders would have had to split their subsequent gains with the RFC. And if the RFC received preferred stock, its repayments would have come first. This is hypothetical as far as the actual course of events was concerned; the RFC was not given permission to invest in bank equity (preferred stock or capital notes) until March 1933, well after the collapse of the banking system.

As evidence that the banks had been hurt by the RFC's insistence on good collateral, Friedman and Schwartz cite an entry in the diary of George F. Harrison, the Governor of the New York Federal Reserve Bank, quoting Owen D. Young, a director of the Bank to that effect.¹¹ It is to be sure, hearsay. Nevertheless, Young's opinion has a claim to authority. Young

¹⁰ Friedman and Schwartz (1963, 427) added that after the Bank Holiday "The RFC played a major role in the restoration of the banking system as it had in the futile attempts to shore it up before the banking holiday."

¹¹ According to Todd (1992, 7) Harrison and Young were active in promoting RFC investment in preferred stock in the spring and summer of 1932 and that by December of 1932 this idea had been taken up by Eugene Meyer the Governor (Chair) of the Federal Reserve Board.

was one of America's most distinguished business leaders and public servants, best remembered for his work on German reparations. Harrison appointed a Committee of industrialists headed by Young to advise the Federal Reserve Bank of New York on how best to use its resources, and how to coordinate with the RFC and other agencies to promote recovery (*New York Times*, May 20, 1932). This Committee was then replicated at other Federal Reserve Banks. Indeed, Young was considered for the top spot at the RFC, although he declined (Case 1982, 582).

To sum up, Friedman and Schwartz approved the injection of capital into banks that were insolvent or nearly so because the benefits of increased financial stability outweighed concerns about moral hazard.

3.4 Friedman and Schwartz on Bagehot

Walter Bagehot's *Lombard Street* (1873) has come to be regarded as the bible of central banking and Friedman and Schwartz are duly respectful. In *A Monetary History* they argue that if the Fed had followed the policies outlined in *Lombard Street* the collapse of the economy would have been prevented. Most modern interpreters of Bagehot believe that Bagehot maintained that the Bank of England should lend only when offered sound collateral, and some claim that Bagehot maintain that the Bank should not

lend to insolvent institutions even if offered sound collateral. The latter point can be found, for example in Humphrey (1989) and (2010), although the wisdom of this policy has been challenged, for example by Goodhart (1999) and Goodhart and Schoenmaker (1995) who point to the difficulties that would be encountered in trying to determine quickly the solvency of a troubled institution.

If we accept that Bagehot forbids emergency lending to insolvent institutions, Friedman and Schwartz's favorable references to Bagehot in *A Monetary History* might suggest that they too were opposed to emergency lending to insolvent institutions. However, a close reading of *A Monetary History* does not support this interpretation of their view.

Friedman and Schwartz (1963, 407) put their main claim about Bagehot this way.

The actions required to prevent monetary collapse did not call for a level of knowledge of the operation of the banking system or of the workings of monetary forces or of economic fluctuations which was developed only later and was not available to the Reserve System. On the contrary, as we have pointed out earlier, pursuit of the policies outlined by the System itself in the 1920's, *or for that matter by Bagehot in 1873*, would have prevented the catastrophe. [Our italics].

What Friedman and Schwartz had in mind, I believe, was what Bagehot called "the brave policy," pouring as much money into the banking system as necessary to stop a panic, even if this meant seriously depleting

the bank's gold reserves. We can see this in the one passage from *Lombard Street* that Friedman and Schwartz quote at length. There Bagehot quotes approvingly the description by one of the directors of the Bank of England, a former Governor Jeremiah Harman of how the Bank countered the Panic of 1825.

The way in which the panic of 1825 was stopped by advancing money has been described in so broad and graphic a way that the passage has become classical. "We lent it," said Mr. Harman on behalf of the Bank of England, "by every possible means and in modes we have never adopted before; we took in stock on security, we purchased Exchequer bills, we made advances on Exchequer bills, we not only discounted outright, but we made advances on the deposit of bills of exchange to an immense amount, in short, by every possible means consistent with the safety of the Bank, *and we were not on some occasions over-nice*. [Our italics, Friedman and Schwartz 1963, 395]

Notice that in this passage Harman is not claiming that the Bank lent only to solvent institutions, nor even only on good collateral: *we were not on some occasions over-nice*. Similarly, Friedman and Schwartz's conclusion in the case of RFC lending which I discussed above, that lending restricted to fully collateralized loans was counterproductive contradicts the idea that Friedman and Schwartz endorsed the idea that the Federal Reserve should have restricted its lending to fully collateralized loans because that was Bagehot that was one of Bagehot's rules.

Friedman and Schwartz's willingness to ignore what has come to be considered one of Bagehot's key restrictions on emergency lending makes sense given their view of the circumstances in which the Fed was operating. When Bagehot wrote, the maintenance of the gold standard was the foremost goal of monetary policy, and the gold reserves of the Bank of England were limited. Friedman and Schwartz, however, thought that the Fed's gold reserves were more than adequate to support a massive intervention; the fire trucks had plenty of water.¹² Moreover, they were not overly concerned that a disaster would follow from the abandonment of the gold standard.

All this is not to say that Friedman and Schwartz thought that the solvency of a bank being considered for assistance should not be taken into account. The point is simply that a close reading of Friedman and Schwartz suggests that their main takeaway from Bagehot was that the Fed should have followed what Bagehot called "the brave policy" of being willing to deplete its reserves to quell a panic. A close reading does not suggest an endorsement of Bagehot's belief, as often interpreted, that the

¹² Simulations carried out by Bordo, Choudhri, and Schwartz (2002) showed that the massive gold reserves of the Fed were more than sufficient had they been deployed at the right times to end the banking panics without endangering America's commitment to the gold standard.

central bank must always restrict emergency lending to solvent institutions.¹³

3.5 The Federal Deposit Insurance Corporation

The Banking Act of 1933, among other things, established federal deposit insurance. It was not a new idea. Deposit insurance had been advocated by reformers for many years, had been adopted in a number of states, and had been pushed by the smaller banks who sought it as a means of remaining competitive with larger banks (White 1981, Calomiris and White 1994). As has often been noted – perhaps because it seems a moment of apostasy for free-marketers – Friedman and Schwartz argued that Federal Deposit Insurance had done a great deal to stabilize the banking system.¹⁴

Adopted as a result of the widespread losses imposed by bank failures in the early 1930's, federal deposit insurance, to 1960 at least, has succeeded in achieving what had been a major objective of banking reform for at least a century, namely, the prevention of banking panics. [Friedman and Schwartz 1963, 440]

Friedman and Schwartz looked favorably not only on deposit insurance, but also on the policy of the Federal Deposit Insurance

¹³ Similarly, Bagehot argued that emergency lending should be made at a high rate of interest. Friedman and Schwartz, however, argued that a low interest rate that encouraged borrowing and expansion of the stock of money would have been the right policy.

¹⁴ There were, however, other costs such as increased risk taking by commercial banks (White 1998).

Corporation of reorganizing or finding merger partners for distressed banks. This policy in effect converted the limited formal legal coverage of deposits to 100% coverage. *A Monetary History* put it this way.

...bad banks, though perhaps no less frequent than before, are seldom permitted to fail if they are insured; instead, they are reorganized under new management or merged with a good bank, with the FDIC assuming responsibility for losses in connection with depreciated assets. [Friedman and Schwartz 1963, 440]

In other words, at times the FDIC was carrying out bailouts. Cash might not be changing hands immediately. However, the guarantee of asset values is a valuable form of insurance and merger partners are earning the goodwill of a federal regulatory agency.

Friedman (1954) had made this argument before the publication of the *Monetary History* in a paper provocatively titled “Why the American Economy is Depression Proof”. There he enumerated several factors that had strengthened the economy against depressions – including the heavy investment of banks in government securities, the reduction in the ties between money and gold, and the development of “built in” fiscal stabilizers such as unemployment insurance – but he considered deposit insurance effectively extended to all deposits by the policy of merging bad banks with good ones the most important.

Friedman returned to this view of the banking system when Congress examined discount-window lending in 1968. Friedman wrote to Senator Proxmire, of the Joint Economic Committee, that the discount window should be eliminated. Friedman's argument was that FDIC insurance and its policy of finding merger partners for troubled banks was more than sufficient to prevent bank failures from triggering panics. The discount window was simply an anachronism. Clearly, eliminating the discount window would make it more difficult for the Fed to carry out bailouts, but it no longer needed to do that.¹⁵

Thus, while Keynesian economists attributed the economic stability of the 1950s and early 1960s, a "golden age" as it is sometimes been styled, to Keynesian fiscal policies, Friedman while not denying a positive role for automatic stabilizers attributed the golden age mainly to the absence of banking panics produced by deposit insurance and the Fed's understanding that it must maintain the quantity of money. However, as we will see as we explore Friedman's response to subsequent bank and near bank failures, Friedman's confidence that the problem of financial crises had been solved waned in later years.

¹⁵ I am grateful to Robert Hetzel for drawing my attention to Friedman's letter, dated September 13, 1968. The letter was cited several times in the press after Proxmire read it into the Congressional Record.

4. Bailouts of Banks after *A Monetary History*

4.1 The Savings and Loan Crisis

In a sound recording dated April 17, 1974, Friedman (1974a) described the savings and loan (S&L) industry as a “ticking time bomb.” The S&Ls held portfolios of mortgages paying rates fixed many years in the past, while market rates were rising as a result of inflation. The blame for this was twofold: legal restrictions on the savings and loans imposed during the Great Depression, and the inflation that began in the mid-1960s that that was the result of mistaken monetary policies. Technically, he thought, the entire industry was bankrupt. What would be the outcome? It might be a good idea, he mused, to allow a large fraction of the S&Ls to go out of business, but he thought that politically this was out of the question. There would be a bailout. Perhaps Fannie Mae and Freddie Mac would buy the mortgages at subsidized prices or arrangements would be made to subsidize the interest paid on deposits.

Friedman reiterated his analysis of the causes of the crisis in later years, for example in his popular book on monetary history *Money Mischief* (1992, 351-2). He was always adamant that the problem was not caused by deposit insurance, even though deposit insurance eliminated the need

for depositors to monitor the riskiness of the institutions that held their deposits.

In an interview with Louis Rukeyser (1989) and in a letter to the *National Review* (30 June 1989, p. 4) he pointed out that until the 1970s failures of S&Ls had been rare despite the presence of deposit insurance. However, in those days shareholders had an incentive to monitor the banks. The erosion of the equity reduced the incentive of shareholders to monitor the S&L's and produced excessive risk taking. Deposit insurance was not to blame. Bad regulation had also been a factor, but a minor factor compared with fixed rate mortgages combined with inflation.

What should be done? In an interview reported in the *Wall Street Journal* (Malabre and Clark, 20 December 1988, A7) Friedman made an interesting suggestion. The government should ...

take over all savings and loans whose liabilities exceed their assets and franchise their operations to companies that would run them as agents of the Federal Savings and Loan Insurance Corporation.
[Malabre and Clark, 20 December 1988, A7]

Unfortunately, the Interview does not report more details. Presumably, Friedman had in mind something analogous to a franchise of the sort that would have been familiar to readers of the business pages, such as McDonalds. In those cases, the franchisee put up some of the money,

McDonalds put up some of the money, and the franchisee agreed to follow McDonalds' rules and regulations; no tofu burgers. If depositors could be persuaded to remain loyal, a savings bank that had received an infusion of cash from the Insurance Corporation might return to profitability like a firm emerging from Chapter 11, and both the private investors and the government could earn a profit.

That this was more of an idea than a plan is suggested by an interview published a short time later. In that interview, he told Louis Rukeyser (1989) that the remaining S&Ls should be allowed to disappear. They made sense in the nineteenth century as local savings institutions, but there was no longer any reason to continue the industry.

In the last remarks on the S&L crisis that I have found, Friedman (1991) – answering written questions after a public lecture – supported paying the depositors of the S&Ls. He insisted that this was not a “bailout” but rather a matter of honoring commitments. He acknowledged that poor regulation had been a contributing factor in the demise of the industry, but reiterated his belief that the main story was limiting S&Ls to long-term fixed rate mortgages (the result of mistaken New Deal legislation) and inflation (the result of mistaken Fed policies) that raised short-term interest rates.

4.2 Franklin National Bank

Early in 1974, newspaper readers learned about problems at the Franklin National Bank. A Long Island bank founded in 1926, the trouble began when the mysterious and possibly sinister figure, Michele Sindona, gained a controlling interest. In October 1974, Franklin National declared bankruptcy because of huge losses resulting from foreign exchange speculation and other poor investments. In the end, Franklin National received a bailout as part of an arranged marriage (Schwartz 1992, 64-4; Meltzer 2009a, 880-81), and there was no panic. Later, Sindona was convicted of fraud and extradited to Italy where he died in prison, apparently poisoned.

Friedman (1974b) first discussed the problems of Franklin National in a sound recording dated May 20, 1974. He pointed out that in the past failures of large *banks*, not other sorts of financial institutions had triggered banking panics. The recent failure of Equity Funding, a large financial services conglomerate, had not triggered a panic, but the failure of Knickerbocker Trust in 1907 and BoUS in 1930 had. Nevertheless, he thought that it was unlikely that the failure of Franklin National would trigger a panic because his now familiar argument the FDIC protected depositors and the Fed would not allow a panic to reduce the quantity of money.

Friedman returned to the case of the Franklin National in a *Newsweek* column published on July 15. By then the Franklin National had received an emergency loan of \$1.7 billion from the Fed, at a rate that was below the Federal Funds rate. The result, Friedman calculated, was a subsidy of \$600,000 to \$800,000 per week. This was an unnecessary levy on the taxpayer. No loan was necessary since FDIC Insurance would prevent a bankruptcy of Franklin National from triggering a panic. Moreover, if it was felt that a loan was necessary, it should have been made at a penalty rate. Friedman did not cite Bagehot, but did claim that a penalty rate had been the tradition at other central banks.

Friedman (1974c) returned to the Franklin National in a sound recording dated July 24, 1974. There compared the failure of Franklin National with the failure of the BoUS. One interesting parallel was that a possible merger partner being discussed for Franklin National was Manufacturers Hanover, a descendant of one of the proposed merger partners for the BoUS. Friedman argued that a rescue plan was appropriate for the BoUS because it was a sound bank. He suggested that Franklin National, however, was probably a bad bank, although he had only limited information, and thought that if it was a bad bank there was no need to bail it out with a plan that protected shareholders as well as depositors

because, he reiterated, we now had FDIC insurance and a Fed that understood its mandate to stop panics. These institutional changes would prevent the failure of Franklin National from triggering a panic. Friedman, as emphasized by Edward Nelson (2021, 322-326) in his recounting of the episode, consistently favored forcing shareholders to assume losses when financial institutions failed, while providing protections for depositors. This would maintain the appropriate incentives for prudence, while minimizing the probability of banking panics.

4.3 Foreign Debt Crises¹⁶

In the 1980s and 1990s several countries in the developing world experienced debt crises. Heavy borrowing from foreign banks was often an important component. Therefore, the various bailouts that were proposed and adopted were to some extent roundabout bailouts of banks.

One of the first countries to experience a debt crisis was Chile. After a military coup led by Augusto Pinochet ousted Salvador Allende in 1973 measures were undertaken to reduce inflation, then running at a very high rate, and Chile endured a severe economic contraction. However, as the

¹⁶ For a discussion of the history of international bailouts, see Bordo and Schwartz (2000).

economy recovered Chile experienced several years of rapid economic growth. Inflation came down but still ran at a high rate. In 1979 in a further effort to reduce inflation Chile fixed its exchange rate. This decision soon produced another crisis; and in 1982 a devaluation of the peso.

On November 2, 1981, the Chilean authorities took over a number of financial institutions and banks for taking “excessive risks.” Two weeks later Friedman visited Chile, and was asked whether bailing out these institutions was the right thing to do. Friedman answered that it made sense to do it, provided the goal was to protect small depositors but not shareholders (Edwards and Montes 2020, 120).

Other countries soon experienced similar troubles. In August 1982, Mexico declared a moratorium on repayment of its foreign debts. Mexico then received an aid package from the United States, other countries, and the International Monetary Fund. At the time, Paul Volcker the chair of the Federal Reserve thought that aid was justified because the biggest U.S. banks would be hurt if aid was not given and that the result could be a run on banks like that of the 1930s (Silber 2020, 219-20).

Mexico's moratorium was followed by others in the 1980s and 1990s, and by more government relief efforts.¹⁷ Friedman opposed these efforts. He thought that the main beneficiaries were the banks that had lent to developing countries, not the people who lived in those countries, and the banks could and should suffer the losses resulting from their bad judgments.

Since the beneficiaries of the bailouts were banks in developed countries, could the relief plans be justified because they would prevent banking crises in the United States? Friedman thought not. The banks that had lent the money would write down their loans to reflect their new value. Shareholders would recognize their losses. This was a normal and desirable part of the capitalist system, a profit and loss system.

How could Friedman be sure that these losses would not spark a banking panic? Evidently, Friedman had followed bank share prices. After a speech at the Commonwealth Club of San Francisco in 1988, a member of the audience asked, "How does default of foreign nations on their debts affect our economy?" Friedman (1988, 381) answered "Hardly at all" and added the following.

¹⁷ See Meltzer (2009a, 960-67 and 1105-1180) for a detailed description of the Fed's attempts to wrestle with the problems in Mexico and other developing countries in the 1980s.

Don't look at the official accounting books of the banks, look at what their stocks are selling for in the marketplace. The values reflect the fact that those foreign loans are only going to be collected in part. There aren't going to be overall defaults. There will continue to be renegotiations and covering up.¹⁸

Friedman (1998) also thought that the Mexican bailout of 1995 when the IMF and a consortium of other lenders provided Mexico with \$50 billion was a mistake. Friedman argued, once again, that the money did not go to the Mexican people but rather to the banks and other financial institutions that had lent to Mexico. Moreover, he saw little danger of a financial panic if banks were forced to accept the losses.

Friedman contended, moreover, that the bailouts had encouraged imprudent borrowing by other developing countries, and led to subsequent crises. He did not blame the developing countries for taking the money. Instead, he blamed the countries that were members of the IMF for using taxpayer money to subsidize banks and other private financial institutions. Michael Bordo and Anna J. Schwartz (1999, 2000) studied these episodes in detail and reached similar conclusions about the necessity and effectiveness of the bailouts.

¹⁸ Bruner and Simms (1987) found, unlike some previous research, that bank share prices had responded quickly to exposure to Mexican debt after the announcement of the moratorium in 1982.

4.4 Continental Illinois

Beginning with the failure of Penn Square Bank in Oklahoma City in July 1982 the U.S. banking system was rocked by a series of failures more severe than any since the Great Depression. The problem at Penn Square was loans to oil drillers who went bankrupt when oil prices fell. Penn Square, moreover, had sold loan participations to other banks thus spreading the problem.

The biggest explosion occurred in May 1984 when Continental Illinois, a large Chicago based bank, closed its doors.¹⁹ It was the biggest bank failure in American history to that point. In the Penn Square case, the FDIC had stuck to its rules and big depositors were reimbursed at a rate of about 65%. However, in the case of Continental Illinois, the FDIC waived the \$100,000 limit then in place and insured 100% of all deposits. It extended insurance, moreover, to other creditors of the bank. When the FDIC could not find a buyer for Continental, it extended “permanent assistance.” In other words, it injected capital. All the bondholders and depositors were bailed out, but the shareholders were largely wiped out. The bank continued with the FDIC the majority owner until 1991. The Bank

¹⁹ See Haltorn (2013) for a clear and detailed description of the failure and bailout.

of America acquired it in 1994. It was the FDIC's handling of Continental Illinois that gave widespread currency to the phrase "too big to fail."

Friedman – perhaps surprisingly to many who have a limited knowledge of his views – approved of the handling of the failure of Continental Illinois. He explained his position in a speech to the Commonwealth Club in San Francisco. "I believe," Friedman (1984, 269) told the audience, that "on the whole, the Continental Bank Problem was handled very well." He added that ...

The reason why the Continental Bank was allowed not to fail was that the Bank of United States was allowed to fail on December 11, 1930. That bank failure nearly 54 years ago sparked a run on other big banks that helped turn a recession into the nation's worst Depression.

In the question and answer session that followed, a member of the audience pointed out that Friedman had opposed the bailout of New York City, and suggested that Friedman was being inconsistent in supporting the bailout of Continental Illinois. Friedman, however, insisted that there was an important difference: the failure of Continental Illinois without government assistance might start a banking panic – even if the presence of deposit insurance made a panic unlikely – the failure of New York City could not. He returned, once again, to the failure to bailout the BoUS to make his point.

It was important, he added, to distinguish between the liquidity problem, the \$40 billion or so in deposits at Continental that depositors would want to withdraw, and the solvency problem, the \$2 or \$3 billion by which liabilities exceeded assets. The large block of deposits meant that a failure of Continental Illinois to pay depositors on demand might start a banking panic. However, the excess of liabilities over assets simply meant that if the bank was liquidated shareholders would be wiped out, an outcome that Friedman approved. Capitalism was a profit and loss system, and the loss part, as he often said, was just as important as the profit part.

The size of the banks may explain the difference between Friedman's response to the bankruptcy of Franklin National and his response to the bankruptcy of Continental Illinois. However, there were other differences. The failure of Continental Illinois – like the failure of the BoUS in 1930 – followed a number of other failures so depositors were already on edge. And the stories were different. In the case Franklin National the public was already aware of the possible misdeeds of Michelle Sindona before the bank failed, misdeeds not likely to be repeated by other banks. The problems of Continental Illinois, however, might well be shared by other banks. Speculative loans in the Texas "Oil Patch," the ultimate source of Continental's troubles, might affect many others.

Subsequently, Friedman voiced his support for the handling of the Continental Illinois bankruptcy in an important academic paper: "Has Government Any Role in Money?" There Friedman and Schwartz (1986b, 304-305) contrasted the "successful handling of the Continental Illinois Problem" by the FDIC and the Fed with unsuccessful handling of the S&L Crisis in Ohio by Governor Celeste. The failure of the Home State Savings bank had precipitated a run. Instead of calling on the Federal Reserve Bank of Cleveland to provide cash for the S&Ls, something the Cleveland Fed was willing to do, Celeste declared a banking holiday, ultimately magnifying the damage.

Banking problems did not end with Continental Illinois. In July 1986 the First National Bank & Trust Co. of Oklahoma City failed, the second largest collapse in U.S. history to that time. The bank was then taken over by a newly created Oklahoma subsidiary of First Interstate Bancorp, headquartered in Los Angeles. The FDIC agreed to retain \$418 million of the banks worst assets so that no depositors were forced to take a haircut. In other words, another bailout. Indeed, with the exception of Penn Square all of the deposits in the major failures in the mid-1980s, including deposits in excess of the FDIC limit of \$100,000 had been protected. The *Los*

Angeles Times (Zonana 1986, part 1, 20) quoted Friedman's positive assessment of the work the FDIC was doing.²⁰

Deposit insurance is doing its job, Friedman said. It has prevented a repeat of the situation we had in 1931 and 1932, when depositor panics forced the closing of perfectly sound banks.

5. Shadow Banks

5.1 The Problem Posed by Shadow Banks

Friedman was well aware that a variety of financial institutions not just those legally allowed to use the term bank could produce money-like assets. This is why he and Anna Schwartz (1970) viewed the determination of the best definition of money as an empirical issue.

The problem posed to monetary reformers by near monies produced by what we would now call shadow banks was clearly recognized by one of Friedman's predecessors at the University of Chicago, Henry Simons, whose work was a major influence on Friedman.²¹ In his famous essay "rules versus discretion" Simons (1936, 17) emphasized that banking was a "pervasive problem, not something to be dealt with merely by legislation

²⁰ The FDIC seized another large institution, the Bank of New England, in January 1991 and deposit insurance was raised to 100%. Friedman (1991) expressed the opinion that the failure could not cause a financial panic, but the remarks that I have found are not sufficiently detailed to determine whether he believed that it was the intervention by the authorities or other factors that made a crisis unlikely.

²¹ Simons was a professor in the economics department at Chicago when Friedman was earning his M.A. there, but Friedman did not take a class with him (Friedman 2002).

directed at what we call banks,” and thought that over time legislation had to be aimed at minimizing the amount of short-term borrowing, and assuring that all means of payment and “hoards-media” could only be increased or decreased by government.

Friedman (1959), following Simons, advocated 100 percent reserves, and following Simons, recognized the problem that shadow banks posed for this proposal. However, Friedman thought that another policy that he advocated, the payment of interest on reserves, combined with deposit insurance would solve the problem. There would then be no incentive to create uninsured liquid assets, if insured deposits could pay a competitive rate of interest (Friedman 1959, locations 1338-42).

5.1 Shadow Banks in the *Monetary History*

There are three panics discussed in *A Monetary History* that were triggered by the failure of what we would now call a shadow bank: (1) the failure of Jay Cooke and Company in Philadelphia in 1873, (2) the troubles experienced by Baring Brothers in London in 1890, and (3) the suspension by the Knickerbocker Trust in New York in 1907.²²

²² Friedman was undoubtedly aware of other examples such as the failure of Overend, Gurney and Company in Britain in 1866 which sparked a financial panic, and is discussed in *Lombard Street*; and the

As I noted above, Friedman and Schwartz did not comment on the advisability of a bailout for Jay Cooke or Baring Brothers. When discussing the panic of 1907, however, Friedman and Schwartz (1963, 159) do conclude that “help” would have – helped. However, we cannot read too much into this as far as Friedman’s attitudes toward the bailout of shadow banks is concerned. Although the Knickerbocker Trust has been identified as a shadow bank by contemporary writers (Frydman, Hilt, and Zhou. 2015), Friedman and Schwartz regarded it as an in-all-but-name commercial bank. The New York Trust companies were allowed considerable freedom because the story was that they would be drawing their resources from long-term investors. Instead, however, they competed aggressively and successfully for garden variety demand deposits. Friedman and Schwartz included deposits in New York State Trust Companies in their estimates of the stock of money.

In the early part of 1970, a crisis hit the securities brokers. Some closed temporarily; others failed. The failure on March 14 of McDonnell & Co., a major broker, was particularly important. Many customers of the

failure of Grant and Ward, a brokerage, which was one of the triggers for the Panic of May 1884 discussed in Sprague (1910, 108-23). Rockoff (2018) discusses a number of other American examples.

failed brokerages lost money. One outcome of the crisis was the creation of the Securities Investor Protection Corporation.

In an interview recorded on February 12, Friedman (1970a) was asked whether the failures of the brokerages could start another a Great Depression. Friedman assured his listeners that they could not. He then returned to his interpretation of the Great Depression. The key moment was not the stock market crash, but rather bank failures in the fall of 1930, especially the failure of the BoUS. This failure ignited the chain reaction that produced the Great Depression. Today however, Friedman assured his listeners, deposit insurance (most importantly) and the determination of the Fed not to repeat the mistakes made in the 1930s would prevent another Great Depression.

In 1975, the American Enterprise Institute published a wide-ranging discussion with Friedrich Hayek. In it, Hayek (1975, 10-11) argued that Friedman's proposal for a stable rate of growth of a monetary aggregate would not work because of the growth of near monies. Any attempt to limit the growth of one part of the monetary structure "could, sooner or later, lead to a rather catastrophic monetary panic."

Soon after, Friedman (1976) was asked about Hayek's concerns, and not surprisingly, he rejected them. First, he went back to the Panic of 1907

arguing that it was caused by the existence of uninsured deposits payable in fixed amounts on demand, implying that although “Trust” companies were involved it was a standard banking panic. The existence of FDIC insurance would prevent a recurrence. Friedman also thought that near monies that were not convertible into fixed amounts on demand, such as commercial paper, were not a problem because their prices could adjust. The situation was analogous to currency crises: fixed exchange rates could generate crises, but flexible rates would not because exchange rates could adjust. Finally, Friedman thought that the problem of an unstable monetary velocity was an empirical question and that good research could find a monetary aggregate that maintained a stable relation with national income.

5.2 Milton and Anna Predict the Panic of 2008

During the 1960s and 1970s, to sum up, Friedman was confident that the problem posed by shadow banks was limited. However, this changed when what Friedman referred to as “non-banks” – to use the misleading contemporary term, what would now be called shadow banks – became increasingly important. In a prescient passage in “Has Government Any Role in Money” Friedman and Schwartz (1986b, 306) wrote that

The U.S. has been almost unique in preserving a unit banking system with numerous independent banks. The current pressures for deregulation and the widening competition in financial intermediation is changing that situation. The barriers against interstate banking are weakening and very likely will ultimately fall completely. Such “non-banks” as Sears Roebuck, Merrill-Lynch, and so on, in most respects are the equivalent of nationwide branch banks. *These developments, as they mature, will simultaneously lessen the probability of liquidity crises and increase the magnitude and severity of those that occur. It is therefore far from clear what implications they have for the “lender of last resort” function.* [Our italics]

What became of their examples of “nonbanks”? Sears Roebuck had expanded in the early 1980s into financial services by buying Dean Witter, a stock broker, Coldwell, Banker & Co. a real estate broker, and Allstate Insurance with which it already had a long relationship. Sears launched the Discover Card through Dean Witter in 1985. Sears, however, divested itself of much of its financial service providers in the early 1990s. It sold its consumer credit division, the last component of its financial services business, to Citigroup in 2003 well before the financial crisis.

Merrill Lynch, however, found itself near bankruptcy at the height of the 2008 financial crisis. On September 14, 2008 Bank of America agreed to acquire Merrill Lynch, reportedly as a result of pressure from the Fed. Later Merrill Lynch received substantial insurance payments from American International Group, which had been bailed out by the Federal Government.

Friedman and Schwartz do not elaborate on their prediction about the possible positives and negatives of the growth of shadow banks. But based on other parts of their paper, the explanation would seem to be that nationwide non-banks (shadow banks) could stand up to regional shocks, much like, as they explain, the Canadian banks could absorb regional shocks because they were nationwide institutions. However, non-banks were not protected by deposit insurance, so the chance of an old-fashioned banking panic would reemerge.

5.3 Long-Term Capital Management

Long-Term Capital Management (LTCM), a huge hedge fund, found itself on the verge of bankruptcy in September 1998: It had lost heavily in the Asian and Russian Financial Crises. Concerned that its failure might start a financial panic, the Fed organized an infusion of capital by a consortium of financial intermediaries. Eventually, the positions taken by LTCM were unwound successfully and the members of the consortium were repaid with a small profit. No public money was directly at risk, although of course the firms taking part could assume they had earned the good will of the Fed. The Fed, moreover, lowered the federal funds rate, its main policy instrument, by a modest .25 percent to reassure financial markets that

liquidity would be available. It followed with another reduction in October. Inevitably, the involvement of the Fed raised questions about the creation of moral hazard. Allan Meltzer (2009b), Friedman's monetarist comrade in arms, for example, later included the bailout of LTCM among the mistakes that encouraged the risk taking that produced the financial crisis of 2008.

Shortly after the rescue, the 86-year-old Friedman took to the stage at Stanford University's Kresge Auditorium to address an overflow crowd of students.²³ He was interviewed by George Shultz. Friedman did not think that letting LTCM fail would have jeopardized world financial markets. However, he was "reluctant to condemn the Fed's action." No federal money had been involved. And there was an important example of the Fed failing to arrange a bailout of a bank, the failure of the BoUS, that had caused the Great Depression. Ever the professor, he cited the chapter in one of his books where the students could read the details, undoubtedly Chapter 7 of *A Monetary History*. While the Fed's actions seem to have averted a panic, the Fed did not require a bailout of all the stakeholders and the partners were wiped out.

²³This paragraph is based on O'Toole (1998).

6. Other Bailouts

The term bailout is now used to identify government aid in a wide variety of circumstances, in addition to helping financial intermediaries, including aid to industrial firms, city governments, the stock market, and so on. Friedman addressed many of these.

6.1 The Unemployed during the Great Depression

If the Great Depression were unfolding today, many New Deal programs would be described as bailouts. Friedman, although critical of much of the New Deal, viewed favorably those programs that provided relief for the unemployed. Here is part of what he and Rose Friedman (1980, 94) wrote about those programs in *Free to Choose* (1980, 94).

The most important temporary programs included “make work” projects under the Works Progress Administration, the use of unemployed youth to improve the national parks and forests under the Civilian Conservation Corps, and direct federal relief to the indigent. At the time, these programs served a useful function. There was distress on a vast scale; it was important to do something about that distress promptly, both to assist the people in distress and to restore hope and confidence to the public. These programs were hastily contrived, and no doubt were imperfect and wasteful, but that was understandable and unavoidable under the circumstances. The Roosevelt administration achieved a considerable measure of success in relieving immediate distress and restoring confidence.

6.2 Penn Central, Lockheed, and Chrysler

Friedman consistently opposed bailouts of industrial firms.²⁴ In 1970 the Penn Central Railroad failed; the largest failure in the United States to that time. The Fed was concerned that the failure of Penn Central to make good on its borrowings in the commercial paper market could start a panic; and so the Fed took a number of actions to reassure financial markets including open market purchases. Friedman (1970b) told the listeners to an audio recording that he saw no way that the Penn Central failure could start a banking panic. Industrial failures and bank failures were distinctly different. Bank depositors, moreover, were protected by deposit insurance. However, in the unlikely event that the Penn Central failure triggered a banking panic the Fed could minimize the damage through lending and open market operations.

Friedman (1974c, 90) also opposed the bailout of Lockheed in 1971, a major airframe maker and defense contractor. Lockheed received a loan from private sources of \$250 million (about 1.2 billion in 2019 using the

²⁴ Friedman also opposed various methods of helping industries that might be termed bailouts such as quotas on the import of foreign automobiles.

GDP deflator) that was guaranteed by the Federal Government. President Nixon made the case for a bailout when signing the bill.

This action will save tens of thousands of jobs that would otherwise have been eliminated. It will have a major impact on the economy of California, and will contribute greatly to the economic strength of the country as a whole. It will help ensure that the Nation's largest defense contractor, and its largest airframe manufacturer, will continue serving the Nation's needs.[*Weekly Compilation of Presidential Documents*, August 9, 1971, 1117]

Free market economists have long accepted the national-defense exception. Friedman, however, saw no reason to aid Lockheed. I have not found extensive comments on the Lockheed bailout, however, perhaps because Nixon's adventure with price controls that followed shortly afterwards drew most of Friedman's attention.

In 1975 the Rock Island Railroad, along with others, was in serious financial trouble. There was much public support for a Federal bailout. After all, this was the "Rock Island Line," a storied American railroad. Friedman (1975a) was opposed. He argued that we should "let the railroad industry stand on its own feet." The Rock Island was not bailed out, and on March 17, it declared bankruptcy.

A bailout was provided, however, for Chrysler, a major automaker that found itself on the verge of bankruptcy in 1979.²⁵ Congress – lobbied

²⁵ My description of the Chrysler bailout relies heavily on Reich (1985).

by Chrysler's new and charismatic leader Lee Iacocca who argued that saving jobs was the main reason for a bailout – provided \$1.5 billion in loan guarantees (about \$4.3 billion in 2018 using the GDP deflator), receiving stock warrants in return.

Friedman (1979, 175-178) opposed the loan guarantees. Standard bankruptcy procedures, he argued, were appropriate. Would jobs be lost: perhaps some at Chrysler, but that was not a certainty. In a Chapter 11 bankruptcy Chrysler might stay in business and eventually emerge from bankruptcy as had other firms. If Chrysler went out of business, other firms would fill the gap in the auto market, hiring Chrysler workers and buying what was useful of its plant and equipment. The loan guarantees, moreover, would divert capital from other uses, so there would be less investment and hence less job creation in other parts of the economy.

Chrysler turned the corner and earned a small profit in 1982. In 1983 Chrysler paid off its loans and the Federal government netted \$311 million (about \$673.00 in 2019 using the GDP deflator) on its stock warrants. Lee Iacocca won praise, not only for negotiating the bailout, but also for resuscitating Chrysler's product line, including the introduction of the mini-van in 1984. It should be noted, however, that while the motivation for the

bailout was to save jobs, employment in 1984 was much lower than it had been before the crisis.

To many observers, Chrysler bailout had been a success. However, even in retrospect Friedman remained convinced that the bailout had been a mistake, and that a conventional bankruptcy would have been better. The bailout reduced economic efficiency.

The private enterprise system is often described as a profit system. That is a misnomer. It is a profit and loss system. If anything the loss part is even more important than the profit part. A private enterprise that fails to use its resources effectively loses money and is forced to change its ways. [Friedman and Friedman 1984, 121-22]

However, a government enterprise that fails, the Friedmans explained, might simply end up with a larger subsidy.

6.3 Hurricane Agnes (1972)

In June 1972 the United States suffered severe damage from Hurricane Agnes. There were claims in the media that it was the most devastating storm in U.S. history. A large package of federal aid to relieve immediate distress and help residences and owners rebuild, a package that received overwhelming support from President Nixon and both political parties, followed quickly. Friedman (1972a, 1972b), however, was critical. One objection was that it would encourage homeowners to build in unsafe

areas. He was also concerned with less purely economic considerations. There was a danger that reliance on the government for help would undermine self-reliance and private charity, ultimately undermining the America's sense of community and the character of her people.

6.4 New York City (1975)

In February 1975 the world learned that New York City was in serious financial difficulties and might be forced to default on its debt. A variety of measures were undertaken to avoid default and the City looked to Washington for help, generating a national debate. President Gerald Ford said that he would veto any bailout legislation, prompting a famous headline in the *New York Daily News* published on October 30, 1975: "Ford To City: Drop Dead." Ford later relented after New York made further efforts to reduce expenditures.

Friedman (Friedman 1975b, Friedman and Allen 1983, 178-180) strongly opposed a bailout. Instead, Friedman thought that the City should declare bankruptcy. The price of New York City debt would fall and perhaps the price of the debt of other cities in similar circumstances – not a bad thing if it forced them to be more prudent. Moreover, there was no reason

why bank depositors would become alarmed and, therefore, no danger of a financial panic from a bankruptcy.

6.5 The Stock Market Crash of 1987

The term bailout was frequently used to describe the Fed's response to disruptions in financial markets during Alan Greenspan's tenure as chair (1987-2006). The starting point was the stock market crash of 1987. The market had been rising rapidly for several years but on October 22, Black Monday, it fell dramatically. To prevent a deepening of the panic and adverse effects for the rest of the economy the Fed poured money into financial markets through a variety of measures including lowering the federal funds rate and acquiring bonds through repurchase agreements.

In an interview with Peter Robinson conducted in March 2000 Friedman (2000) agreed that Greenspan's intervention had produced a positive result. This sort of intervention was not, Friedman warned, easy to get right. There were questions about how much to do and when to stop. There was the risk that people would become over-confident in Greenspan's ability to stabilize markets; a warning about what came to be called "the Greenspan Put."

While Friedman thought that there had been occasions like this when short-term discretionary interventions had proved better than a monetary rule, the lesson of history was still that leaving monetary policy to the discretion of the Fed produced inferior outcomes more often than not. As he often did, Friedman returned to the Great Depression. The failure of discretionary monetary policy during the Great Depression had to count for more than successful cases, such as Greenspan's response to Black Monday.

Greenspan's intervention was an increase in aggregate liquidity. When the Hong Kong Currency Board bought stocks of private companies to shore up the stock market and maintain the currency peg to the U.S. dollar Friedman (Guyot 1998) labelled the effort "insane." Clearly, in this case the stakes were very different from 1987 including undermining Hong Kong's commitment to free markets.

6.6 9/11

The Fed's response to 9/11 under Alan Greenspan, was similar to its response to the 1987 stock market crash. The Fed increased aggregate liquidity. Two weeks later Peter Robinson interviewed Friedman (2001). Once again, Friedman thought that the Fed had been successful. One of

the advantages of using monetary policy, Friedman explained, was that money could be poured in quickly when circumstances demanded and then removed; fiscal policy was not easily reversed. But this success did not alter his view about the optimal monetary policy. Friedman was quick to add that the success of Greenspan's intervention after 9/11, like the success of his intervention in 1987, did not alter Friedman's view that the best monetary policy would be a simple monetary rule: increasing the money supply by a fixed percentage day in and day out.

There were also fiscal bailout packages after 9/11 of \$15 billion for the airline industry and \$20 billion for New York City. Friedman was critical of both. The airlines might deserve federal compensation for losses incurred because of orders from the federal government grounding planes; but they did not deserve compensation simply to cover losses from a reduction in the public's demand for air travel. In New York City, federal buildings would have to be rebuilt, but until the amount of private insurance available was sorted out, a bailout package was premature. True, the government had failed in its duty to protect the citizenry, but that did not entitle the citizenry to compensation. If your house is robbed, the local government has failed in its duty to protect your property, but that does not entitle you to compensation.

7. Summary and Conclusions

Milton Friedman viewed government funded bailouts in terms of costs and benefits. Consider first the bailout of a manufacturing firm. The cost is reduced economic efficiency. A badly managed firm is kept in business and an incentive is created for this and other firms to slacken their effort or take excessive risks – moral hazard. There is, moreover, the cost to the taxpayer who foots the bill. What are the benefits? Creditors, shareholders, employees, and customers will benefit. Firms that provide goods or services for the firm that is bailed out, and perhaps the community in which it is located, will also benefit. This is the whole story as far as Friedman was concerned for manufacturing firms. He concluded, therefore, that conventional bankruptcies, including importantly chapter 11 bankruptcies, were the best way to deal with industrial failures.

In the case of banks, however, there is, potentially, an important additional benefit from a bailout: a reduction in the likelihood of a financial panic. For Friedman this meant that in the case of financial institutions the benefits of a bailout might outweigh the costs.

How did Friedman know that the failure of a large industrial firm would not start a panic, but the failure of large bank might? The answer

was history. Failures of industrial firms had not started panics. Failures of financial firms, such as Jay Cooke and Company (1873), the Knickerbocker Trust (1907), and Bank of the United States (1930) had.

What about the failure of a shadow bank? Could that start a panic? Would it therefore be prudent to bail out a major shadow bank? Friedman was aware that the failure of a shadow bank, such as Jay Cooke and Company in 1873 had triggered panics. In the first part of the postwar era, however, Friedman thought that there was no danger of a financial panic resulting from the failure of a shadow bank for two reasons. First, Federal Deposit Insurance protected small depositors, the depositors most likely to panic. And second, the Fed would not make the mistake of allowing the quantity of money decline that it had during the Great Depression.

Later, however his view changed because of the growth of shadow banks. In “Has the Government any Role in Money” (1986b) he and Anna Schwartz made the prescient prediction that the growth of non-banks – the awkward and misleading term then used for some institutions that we would now call shadow banks – while it would reduce the incidence of financial crises, would make those that did occur more severe. Moreover, in evaluating the bailout of Long-Term Capital Management, a giant hedge fund that failed in 1998 Friedman said, referring to the bailout, that he was

“reluctant to condemn it.” He then contrasted the successful handling of the failure of Long-Term Capital Management with the failure to bail out the Bank of United States in 1930.

An important caveat concerns who is bailed out. In the bailout of Continental Illinois, a case that Friedman thought had been handled well, depositors and other creditors were protected, but shareholders were mostly wiped out and management was replaced. The protection of depositors and other creditors created an advantage for large banks: they could raise funds more easily because they, like Continental Illinois, were “too big to fail.” However, Friedman thought that as long as shareholders and managers were forced to pay dearly when a financial institution was bailed out there would still be an adequate incentive for bank managers to exercise prudence.

The approach to bailouts that I have deduced from Friedman’s comments, I must concede, differs from that of his long-term collaborator, Anna J. Schwartz. Schwartz, who was highly critical of the 2008 bailouts. The difference may be that Schwartz remained convinced that so long as the Fed and FDIC remained ready to support bank depositors there was no danger of what she (1986) termed a real as opposed to a pseudo financial crisis.

Milton Friedman passed away at age 94 in November 2006. It is presumptuous to conjecture what his response would have been to the Panic of 2008. No one can channel an economist as brilliant and creative as Milton Friedman. Nevertheless, having come this far I will make an attempt. I believe that it would have been consistent with his earlier views for Friedman to have been “reluctant to condemn” the program of bailouts undertaken in 2008, to use the phrase that he used when questioned about the rescue of Long-Term Capital Management. I think he would have recognized that the repos issued by Lehman Brothers and other investment banks were similar to uninsured deposits in commercial banks, thus making possible a destructive panic. In other words, he would have recognized the logic of the contention that 2008 was a “run on repos” and similar to earlier financial panics (Gorton, Laarits, and Metrick 2018). He might have reminded us of the consequences of the failure to provide help for the BoUS in 1930. However, he might well have been critical of the structure of the bailouts, especially with respect to how various classes of stakeholders were treated. Undoubtedly, he would have followed events closely, thought deeply about them, and very possibly come up with some provocative policy proposals.

The Currency-Deposit and Reserve-Deposit Ratios, January 1929-December 1933

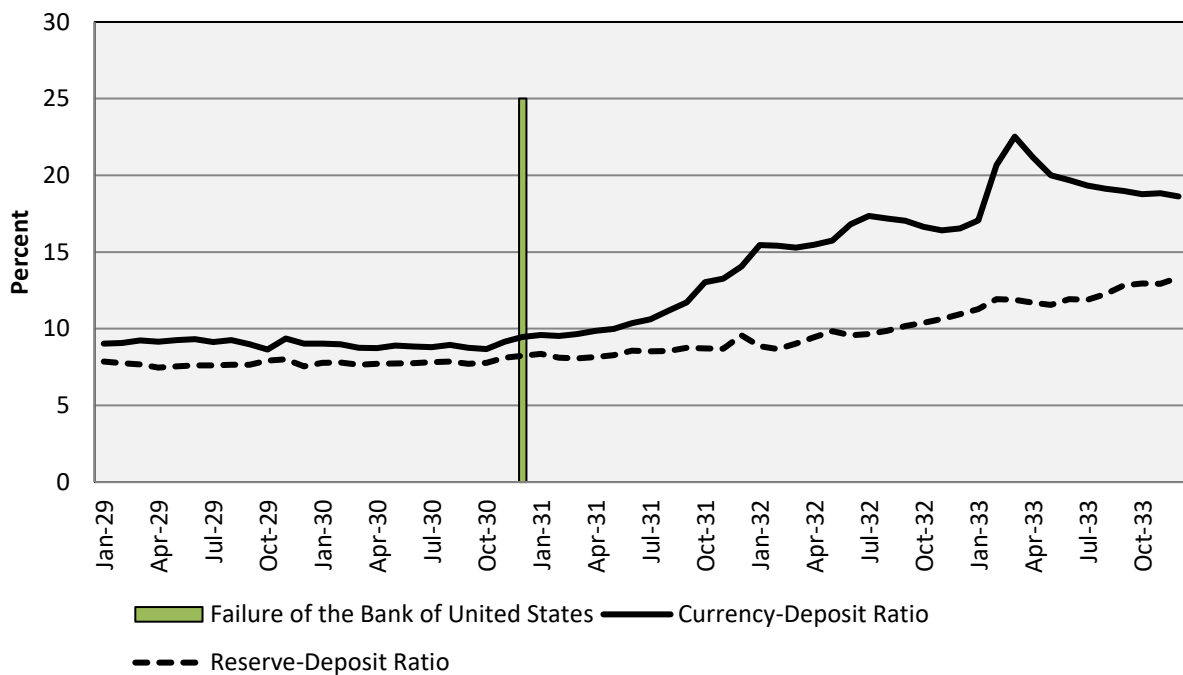


Chart 1

Source: Friedman and Schwartz (1963, Appendix B).

References

Bagehot, Walter. 1924 [1873]. *Lombard Street: A Description of the Money Market*. 14th ed. London: John Murray.

Bernanke, Ben S. 2015. *The Courage to Act: A Memoir of a Crisis and Its Aftermath*. New York and London: W. W. Norton & Company. Kindle Edition.

Bordo, Michael D. 1990. "The Lender of Last Resort: Alternative Views and Historical Experience." *Economic Review* (Federal Reserve Bank of Richmond), Vol. 76/1, pp. 18-29.

_____. 2014a. "The Federal Reserve's Role: Actions Before, During, and After the 2008 Panic in the Historical Context of the Great Contraction" in *Across The Great Divide: New Perspective on the Financial Crisis*, (eds.) Martin Neil Baily and John B. Taylor, Hoover Institution Press.

_____. 2014b. "Rules for a Lender of Last Resort: An Historical Perspective." *Journal of Economic Dynamics and Control* 49 (December): 126–34.

Bordo, Michael D., Ehsan U. Choudhri, and Anna J. Schwartz. 2002. "Was Expansionary Monetary Policy Feasible during the Great Contraction? An Examination of the Gold Standard Constraint." *Explorations in Economic History* 39 (1): 1–28.

Bordo, Michael D., and Anna J. Schwartz. 1999. "Under What Circumstances, Past and Present, Have International Rescues of Countries in Financial Distress Been Successful?" *Journal of International Money and Finance* 18 (4): 683–708.

_____. 2000. "Measuring Real Economic Effects of Bailouts: Historical Perspectives on How Countries in Financial Distress Have Fared with and without Bailouts." *Carnegie-Rochester Conference Series on Public Policy* 53, 81-167.

Bruner, Robert F., and Sean D. Carr. 2007. *The Panic of 1907: Lessons Learned from the Market's Perfect Storm*. Hoboken, N.J.: John Wiley & Sons.

Bruner, Robert F., and John M. Simms. 1987. "The International Debt Crisis and Bank Security Returns in 1982." *Journal of Money, Credit and Banking* 19, no. 1: 46-55.

Calomiris, Charles W., and Eugene N. White. 1994. "The Origins of Federal Deposit Insurance." In *The Regulated Economy: A Historical Approach to Political Economy*, edited by Claudia Goldin and Gary D. Libecap, 145–88. National Bureau of Economic Research Project Report series.

Case, Josephine Young., & Case, Everett Needham. 1982. *Owen D. Young and American enterprise: A biography*. Boston: D.R. Godine.

Cowen, Tyler. 2009. Were the bailouts a good idea? Marginal Revolution [Blog post], August 25. Retrieved from <https://marginalrevolution.com/marginalrevolution/2009/08/were-the-bailouts-a-good-idea.html>.

Edwards, Sebastian, and Leonidas Montes. 2020. "Milton Friedman in Chile: Shock Therapy, Economic Freedom, and Exchange Rates." *Journal of the History of Economic Thought*, 42, no. 1: 105-32.

Friedman, Milton. 1950. "Wesley C. Mitchell as an Economic Theorist." *Journal of Political Economy* 58, no. 6: 465-93.

_____. 1954. "Why the American Economy Is Depression Proof." *Nationalekonomiska föreningsens förhandlingar*, no. 3, 1954, 58-77. Reprinted in *Dollars and Deficits*. Englewood Cliffs, New Jersey: Prentice Hall, 1968, 72-96.

_____. 1959. *A Program for Monetary Stability* (The Millar lectures, no. 3). New York: Fordham University Press. Kindle Edition.

_____. 1961. "Real and Pseudo Gold Standards." *The Journal of Law & Economics* 4: 66-79.

_____. 1962. *Capitalism and Freedom*. University of Chicago Press.

_____. 1967. "The Monetary Theory and Policy of Henry Simons." *The Journal of Law & Economics*, 10, 1-13.

_____. 1969. *The Optimum Quantity of Money: and Other Essays*. Chicago: Aldine.

_____. 1970a. "Bond Market Turn, Debt, Bankruptcies." Sound Recording, Collected Works of Milton Friedman, Hoover Institution, February 12.

_____. 1970b. "Penn Central Bankruptcy, Monetary Development, President Nixon's Economic Sale, Subscribers' Questions." Sound Recording, Collected Works of Milton Friedman, Hoover Institution, June 24.

_____. 1972a "Federal Flood Relief" *Newsweek*, September 4, 64.

_____. 1972b. European Fear of Inflation, US Monetary Developments, Flood Relief, Gold." Collected Works of Milton Friedman, Hoover Institution, September 20.

_____. 1974a. "Money, Disintermediation, Thrift Institutions, Inflation Prospects." Sound Recording, Collected Works of Milton Friedman, Hoover Institution, April 17.

_____. 1974b. "Franklin National, Flexible Exchange Rates, Ideas vs. Experience." Sound Recording, Collected Works of Milton Friedman, Hoover Institution, May 20.

_____. 1974c. "Subsidizing Banks." *Newsweek*, 15 July, p. 70.

_____. 1974d. "Alan Greenspan, Monetary Growth, Recession?, Bank Failures." Sound Recording, Collected Works of Milton Friedman, Hoover Institution, July 24.

_____. 1975a. "Travel Plans, Monetary Policy, Railroads." Sound Recording, Collected Works of Milton Friedman, Hoover Institution, March.

_____. 1975b. "Presidents Ford's Tax Program, New York City, Monetary Policy," Sound Recording, Collected Works of Milton Friedman, Hoover Institution, October 10.

_____. 1976. "Economic and Monetary Developments, Talk by Henry Kaufman, Investment Tax Credit, Swine Flu." Sound Recording, Collected Works of Milton Friedman, Hoover Institution.

_____. 1979. "Chrysler: Are Jobs the Issue?" In *Bright Promises Dismal Performance: An Economist's Protest*, ed, William Richard Allen, Trade ed., Harcourt Brace Jovanovich, 1983, 175-78.

_____. 1984. "The Economy: Where Are We Headed?" *Commonwealth*, August 6, 265-6, 269.

_____. 1988. "Internationalization of the U.S. Economy: Fact or Fiction?" *Commonwealth*, July 15, 378-381.

_____. 1991. "Where Are We Headed?" *Commonwealth*, July 15, 490-494, 498.

_____. 1992. *Money Mischief: Episodes in Monetary History* (1st ed.). Harcourt Brace Jovanovich.

_____. 1998. "Markets to the rescue." *Wall Street Journal*, Oct 13.

_____. 2000. Interview by Peter Robinson. "The Economy's New Clothes: Milton Friedman on the New Economy." Video Recording, Collected Works of Milton Friedman, Hoover Institution. March 20.

_____. 2001. Interview with Peter Robinson. "The Economic Impact of the War on Terrorism." Uncommon Knowledge Video, Collected Works of Milton Friedman, Hoover Institution Sept. 25.

_____. 2002. Interview with Claudia Goldin and Lawrence F. Katz. www.nber.org.

_____. 2014 [1984]. "Monetary Policy Structures." *Cato Journal*. Vol. 34, No. 3, Fall, 631-651. This article originally appeared in *Candid*

Conversations on Monetary Policy, published by the House Republican Research Committee in 1984.

Friedman, Milton, and William Richard Allen. 1983. *Bright Promises, Dismal Performance: An Economist's Protest*. Trade ed. Harvest/HBJ Book. San Diego: Harcourt Brace Jovanovich.

Friedman, Milton, & Rose D. Friedman. 1980. *Free To Choose: A Personal Statement* (1st ed.). New York: Harcourt Brace Jovanovich.

_____. 1984. *Tyranny of the Status Quo* (1st ed.). San Diego: Harcourt Brace Jovanovich.

Friedman, Milton, and Anna J. Schwartz. 1963. *A Monetary History of the United States, 1867-1960*. National Bureau of Economic research. Studies in business cycles. Vol. 12. Princeton: Princeton University Press.

_____. 1970. *Monetary Statistics of the United States: Estimates, Sources, Methods*. Studies in business cycles; no. 20. New York: National Bureau of Economic Research.

_____. 1986a. "The Failure of the Bank of United States: A Reappraisal, a Reply." *Explorations in Economic History* 23, April: 199-204.

_____. 1986b. "Has Government Any Role in Money?" *Journal of Monetary Economics* 17. Reprinted in Schwartz, A., Bordo, M., & Friedman, M. eds. (1987). *Money in Historical Perspective*. Chicago: University of Chicago Press, 289-314.

Frydman, Carola, Eric Hilt, and Lily Y. Zhou. 2015. "Economic Effects of Runs on Early 'Shadow Banks': Trust Companies and the Impact of the Panic of 1907." *Journal of Political Economy* 123 (4): 902–40.

Gorton, Gary. 2014. "The Development of Opacity in U.S. Banking." *Yale Journal on Regulation* 31 (3): 825–51.

Goodhart, Charles A. E. 1999. "Myths about the Lender of Last Resort." *International Finance* 2 (3): 339–60.

Goodhart, Charles, and Dirk Schoenmaker. 1995. "Should the Functions of Monetary Policy and Banking Supervision Be Separated?" *Oxford Economic Papers* 47, no. 4: 539–60.

Gorton, Gary, Toomas Laarits, and Andrew Metrick. 2018. "The Run on Repo and the Fed's Response." NBER Working Paper 24866.

Guyot, Erik Staff Reporter of the *Wall Street Journal*. 1998, "Hong Kong's Stock Intervention is 'Insane,' Milton Friedman Says." *Wall Street Journal*, Sep 03.

Haltorn, Renee. 2013. "Failure of Continental Illinois." November 22. Federal Reserve Bank of Richmond. FederalReserveHistory.org.

Hayek, Friedrich A. Von. 1975. "A Discussion with Friedrich A. Von Hayek: Held at the American Enterprise Institute on April 9, 1975." *Domestic Affairs Studies*; 39. Washington: American Enterprise Institute for Public Policy Research.

Humphrey, Thomas M. 1989. "Lender of Last Resort: The Concept in History." *Federal Reserve Bank of Richmond Economic Review* 75 (2): 8–16.

_____. 2010. "Lender of Last Resort: What It Is, Whence It Came, and Why the Fed Isn't It." *Cato Journal* 30 (2): 333–64.

James, F. Cyril. 1938. *The Growth of Chicago Banks*. [1st ed.], Harper & brothers. Volume 2.

Kelly, Ken. 1984. "Outspoken Economists Milton and Rose Friedman." Collected Works of Milton Friedman Project records, Hoover Institution Archives. This is a transcription of an interview that appeared in October in the *San Francisco Focus*.

Lucia, Joseph L. 1985. "The Failure of the Bank of United States: A Reappraisal." *Explorations in Economic History* 22 (4): 402–16.

Malabre, Alfred L. and Lindley H. Clark, Jr. 1985. "Nagging Worries: As Economy Revives Analysts Grow Edgier About Old Problems." *Wall Street Journal*, December 10, p. 1+.

_____. 1988. "Nobel Economists See U.S. Muddling Along Without a Slump Soon", Dec 20, *Wall Street Journal*.

Meltzer, Allan H. 2009a. *A History of the Federal Reserve, Volume 2, Book 2, 1970-1986*. Chicago: University of Chicago Press. Kindle Edition.

_____. 2009b. "Policy Principles: Lessons from the Fed's Past." 2009. In *The Road Ahead for the Fed*, edited by John D. Ciorciari and John B. Taylor. Stanford: Hoover Institution Press, 13-32.

Mints, Lloyd. 1945. *A History of Banking Theory in Great Britain and The United States*. Chicago, Ill.: University of Chicago Press.

Mitchell, Wesley C. 1913. *Business Cycles*. Berkeley, CA: University of California Press.

Nelson, Edward. 2013. "Friedman's Monetary Economics in Practice." *Journal of International Money and Finance* 38 (November): 59–83.

_____. 2020. *Milton Friedman and Economic Debate in the United States, 1932–1972, Volume 1*. University of Chicago Press.

_____. 2021. *Milton Friedman and Economic Debate in the United States, 1973–2006*, Chapters 2 to 6 and 8 to 10. Preliminary Draft. Courtesy of the Author.

O'Brien, Anthony Patrick. 1992. "The Failure of the Bank of United States: A Defense of Joseph Lucia: Note." *Journal of Money, Credit and Banking*, vol. 24, no. 3, pp. 374–384.

O'Toole, Kathleen. 1998. "Milton Friedman on the Economic Crises: 10/98." *Stanford Report*, October 18, 1998.

Reich, Robert B., 1985. "Bailout: A Comparative Study in Law and Industrial Structure." *Yale Journal on Regulation*, Vol. 2, 163-224.

Rockoff, Hugh. 2018. "It is Always the Shadow Banks: The Regulatory Status of the Banks that Failed and Ignited America's Greatest Financial Panics" In *Coping with Financial Crises: Some Lessons from Economic History*, Hugh Rockoff and Isao Suto eds., Springer Nature, 2018, 77-106.

_____. 2021. "Oh, How the Mighty Have Fallen: The Bank Failures and Near Failures That Started America's Greatest Financial Panics." *The Journal of Economic History* 81, no. 2 (2021): 331–58.

Rodgers, Mary Tone, and James E. Payne. 2014. "How the Bank of France Changed U.S. Equity Expectations and Ended the Panic of 1907." *Journal of Economic History* 74 (2): 420–48.

Rodgers, Mary Tone, and Berry K. Wilson. 2011. "Systemic Risk, Missing Gold Flows and the Panic of 1907." *Quarterly Journal of Austrian Economics* 14 (2): 158–87.

Rukeyser, Louis. 1989. "An Interview with Milton Friedman." *Human Events*; Washington, D.C. Vol. 49, Iss. 16, (April 22): 9, 23.

Schwartz, Anna J. 1987. "Real and Pseudo-Financial Crises." In *Money in Historical Perspective*, edited by Anna J. Schwartz, 271–88.

_____. 1992. "The Misuse of the Fed's Discount Window." *Federal Reserve Bank of St. Louis Review* 74 (5): 58–69.

_____. 1998. "Review of *the Banking Panics of the Great Depression* by Elmus Wicker." *Journal of Economic Literature*, vol. 36, no. 1, pp. 275–276.

_____. 2008. "Tearing into the Fed," Interview with Jack Willoughby for the *Wall Street Journal*, updated Oct. 27.

_____. 2009. "Taking Stock: Lessons from History," Interview with Kai Ryssdal for Marketplace, a Program on National Public Radio, June 9, database online, accessed May 29, 2013.

Silber, William L. 2012. *Volcker: the Triumph of Persistence*. 1st U.S. ed. New York: Bloomsbury Press. Kindle Edition.

Simons, Henry C. 1936. "Rules versus Authorities in Monetary Policy." *Journal of Political Economy* 44, no. 1: 1–30.

Sprague, O. M. W. 1910. *History of Crises under the National Banking System*. U. S. 61st cong., 2d sess. senate. doc. 538. Washington: Govt. Print. Off.

Temin, Peter. 1976. *Did Monetary Forces Cause the Great Depression?* New York and London: W.W. Norton and Company.

Todd, Walker F. 1992. "History of and Rationales for the Reconstruction Finance Corporation." *Federal Reserve Bank of Cleveland, Economic Review*, vol. 28, no. 4, pp. 22-35, December 1.

Torres, Craig. 2008. "Fed rescues student debt; critics fear rise in pleas." *The Philadelphia Inquirer*, Philadelphia, Pennsylvania, May 11, Page C06.

White, Eugene N. 1981. "State-Sponsored Insurance of Bank Deposits in the United States, 1907-1929." *The Journal of Economic History* 41, no. 3: 537–57.

_____. 1998. "The Legacy of Deposit Insurance: The Growth, Spread, and Cost of Insuring Financial Intermediaries." In *The Defining Moment: The Great Depression and the American Economy in the Twentieth Century*, edited by Michael D. Bordo, Claudia Goldin, and Eugene N. White, 87–121. NBER Project Report series.

_____. 2016. "How to Prevent a Banking Panic: the Barings Crisis of 1890." Paper presented at the *Annual Meeting of the Economic History Association*, September 16-18, 2016.

Wicker, Elmus. 1980. "A Reconsideration of the Causes of the Banking Panic of 1930", *Journal of Economic History*, Sept., 40(3): 571-83.

Zonana, Victor F. 1986. "Bank of America Losses." *Los Angeles Times*, July 27:1+.

Zweig, Phillip L. 1985. *Belly Up: The Collapse of the Penn Square Bank* (1st end.). New York: Crown.