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The Failures that Ignited America's Financial Panics: A Clinical Survey

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Abstract

This paper surveys the key failures that ignited the major peacetime financial panics in the United States, beginning with the Panic of 1819 and ending with the Panic of 2008. In a few cases panics were triggered by the failure of a single firm, but typically panics resulted from a cluster of failures. In every case "shadow banks" were the source of the panic or a prominent member of the cluster. The firms that failed had excellent reputations prior to their failure. But they had made long-term investments concentrated in one sector of the economy, and financed those investments with short-term liabilities. Real estate, canals and railroads (real estate at one remove), mining, and cotton were the major problems. The panic of 2008, at least in these ways, was a repetition of earlier panics in the United States.

> "Such accidental events are of the most various nature: a bad harvest, an apprehension of foreign invasion, the sudden failure of a great firm which everybody trusted, and many other similar events, have all caused a sudden demand for cash" (Walter Bagehot 1924 [1873], 118).

1. The Role of Famous Failures[1]

The failure of a famous financial firm features prominently in the narrative histories of most U.S. financial panics.[2] In this respect the most recent panic is typical: Lehman brothers failed on September 15, 2008: and … all hell broke loose. Future historians, we can be sure, will cite the failure of Lehman Brothers when they describe the panic of 2008.

Many of these failures, although by no means all, have been examined by economic and social historians, who have written case studies of individual failures or episodes. But there has not been, as far as I am aware, an attempt to determine in general the similarities and differences among these cases. In this paper I try to fill this gap by surveying these failures, starting with the Panic of 1819. I have styled the paper "a clinical survey" because there are not enough data points to do advanced statistical tests, especially given the complexity of forces at work and the diversity of outcomes in financial crises. Like a physician observing some patients with an unusual condition,

[1] This paper had its origin in a conversation with Albrecht Ritschl who asked me a number of searching questions about the history of U.S. banking panics some of which I answer here.

[2] In some cases the offending firm did not fail in the sense that its assets were liquidated by a court appointed official, but merely suspended payment of its obligations for a time, or was in trouble but was rescued in some way, etc. I have made these distinctions as necessary, but have used the term "failure" to cover these cases when the exact nature of the trouble was not issue.

one can make some conjectures about causes and consequences, but it is hard to reach more than tentative conclusions.

How important one thinks these failures might be depends on how one thinks about the origins of financial panics. One class of explanations stresses a buildup of distortions in the financial system that inevitably produces a financial panic. The financial system is like a rubber band: stretch it far enough and it breaks. Some examples that I would place in this category are Moritz Schularick and Alan Taylor (2012), Carmen Reinhart and Kenneth Rogoff and (2009), Gary Gorton and Charles Calomiris (1991), or to take an older example, Wesley C. Mitchell (1941). Given this view of the world, knowing something about the firms that fail first will provide some useful information for policy makers: perhaps they can strengthen financial market regulation and create a system that can last a longer before it succumbs. But it is not crucial information, because some firm has to be first.

An alternative class of explanations stresses the inherent instability of a fractional reserve banking system. In that view a dramatic event can produce a cataclysmic banking contraction. A panic in financial markets in this view is like a panic in a crowded auditorium when someone shouts fire. There may be a real problem, a fire that is about to burn out of control; but there may be nothing at all, a crazy person might have shouted fire just to see what happens. The epigraph from Walter Bagehot expresses this view: an "accidental event" causes "a sudden demand for cash." Friedman and Schwartz (1963, 308-313) make this view part of their story of the Great Depression: during the First Banking Crisis in late 1930, "a contagion of fear spread among depositors," and the failure of the Bank of United States (discussed below) was of “special importance” because of its name which suggested a relationship to the government. Diamond and Dybvig (1983) were the first to provide a formal model of a fragile banking system prone to runs. Given this view of the world knowing something about the failures that have ignited panics in the past can be valuable. The right regulatory framework, or timely action by the central bank, may prevent the kinds of failures that ignite panics.

The two approaches are not, of course, mutually exclusive. It may well be that distortions built up in the economy are bound to produce a severe contraction, and yet it may be possible that additional random events determine whether a panic is added to the ongoing contraction. There may be a fire in a crowded auditorium, and that may mean that many people will be overcome by smoke, but it is still possible to imagine two different scenarios. In one, someone rises quietly, politely asks their neighbors to excuse them, and begins walking toward the exit, leading an orderly evacuation. In the other, someone yells fire, a panic ensues, and the crush of people trying to leave magnifies the damage.

The idea that famous failures caused panics is related to the idea that there are “systemically important” banks: The idea that there are certain banks whose failure can be safely ignored by central banks because they would be ignored by financial markets; but that there are other banks that because of their size or their interconnectedness with other financial institutions need to be bailed out because ignoring them would ignite a panic.[3] Hopefully, a study of the failures that ignited past panics will identify the markers of “systemically important banks.” Unfortunately, as will become clear below,

[3] I have used a variety of terms – caused, ignited, triggered, precipitated – merely for variety.

the failures that started U.S. financial panics form a highly diversified group, a finding that does not bode well for the project of identifying the markers of systemic importance.

In the next section I provide a chronological history of these failures; omitting 2008 which I assume is still fresh in everyone's mind. This section is intended to provide historical context for the famous failures. Anyone familiar with this material can skip to the remaining sections where I summarize the evidence with respect to four questions. (1) Were panics the result of a single failure or a cluster of failures? (2) How were the firms that failed regulated? Were they what today would be called shadow banks? (3) Why did they fail? And (4) what was their reputation before they failed? The panics that I cover are listed in Table 1. The reasons for including these panics and excluding others are discussed in the appendix.

2. A brief history of the famous failures

The Panic of 1819 was most severe in the West. The region had been caught up in real estate speculation. Much of the land was still held by the federal government, but was being purchased rapidly from federal land offices. Many of the mortgages were provided by state chartered and private banks and branches of the Second Bank of the United States. The Second Bank had early adopted the policy that notes issued by any individual branch should be redeemed at every other branch, and did so without placing restrictions on the amount that any individual branch could issue. This allowed the western branches – Cincinnati, Chillicothe, Lexington, and Pittsburgh – to make large loans in a currency that other branches were responsible for redeeming.[4] In 1818, for this and other reasons, the Second Bank found itself in danger of running short of specie and in July began a program of reducing its loan portfolio and reigning in the western and southern branches. This was the spark that precipitated the suspension of specie payments in the West. In November the federal Land Office, added to the pressure on the western banks by ruling that federal land could be sold only for specie or notes issued by the Second Bank; not for notes issued by local banks. Like the more famous "specie circular" issued by Andrew Jackson, this policy helped end the boom in land sales. Almost immediately the three chartered banks in Cincinnati (Huntington 1915, 292) and the Bank of the State of Kentucky suspended.[5] A similar story was playing out in western Pennsylvania where the Pittsburgh branch was also taking actions to restrict credit to western banks (Blackson 1979, 343-66). All of these western banks were small state chartered or private banks, and so by my definition were shadow banks. The Cincinnati branch of the Second Bank was closed in October 1820: a non-shadow bank that was a participant in and victim of the crisis (Caterall 1903, 79-80).

The Panic of 1837 is closely identified with two failures: the failure of Hermann, Briggs & Co., a cotton factor in New Orleans, on March 3, 1837 and the failure of J. L. & S. Josephs & Co., a bill broker in New York, on March 17. Both companies were

[4] There was also problem at the Baltimore branch with speculation in stock of the Second Bank and insider loans.

[5] There was also a private bank in Cincinnati, John H. Piatt & Co., but it is not clear whether it also suspended with the others. In the fall of 1819 some merchants in Cincinnati announced that they would accept only Piatt's notes. But in February 1820 twenty-one leading merchants announced that they would no longer accept the notes. Piatt then gave up banking, returned to his grocery business, and redeemed most of his notes with merchandise (Rowe 1912, 175-78).

important within their respective markets, and they were closely tied: Hermann, Briggs, was a client of Josephs. Indeed, the Josephs blamed their failure on the failure of Hermann, Briggs, although it appears that the failure of Josephs, which was a considerably larger firm, was due to other factors as well as the failure of Hermann, Briggs (Lepler 2007, *passim*).

The failure of Josephs was the proximate cause of the panic. Here is how the New York *Herald* (March 18, 1837, column A) described the effect of the failure.

> The astonishment created by this announcement [of the Josephs' failure] could not have been greater if an earthquake had swallowed half the business district of our splendid city. As soon as it was known the news flew like lightening – people rubbed their eyes, and would scarcely believe the reality of the fact. Crowds collected in Wall Street – and that busy avenue was filled with anxious faces through the live long day.

That two firms in geographically separated financial centers were failing almost simultaneously may have added to the panic. Two people in widely separated parts of the auditorium shout fire. In this respect the Panic of 1837 was similar, as we will see below, to the Panic of 1930 in which the failure of a major southern firm was followed in short order by the failure of one in New York City.

Determining the reputation of these firms at the time they failed is difficult. My guess, from admittedly limited evidence, is that both Hermann, Briggs and the Josephs had excellent reputations before they went down.

Attributing special significance to the failure of the Josephs does not mean that one has to reject explanations that stress fundamental pressures on the banking system. Peter Temin (1969) argued persuasively that the Bank of England's decision to raise its discount rate and take other actions to defend its reserve put considerable pressure on the American banking system in the run-up to the panic. And Peter

Rousseau (2002) showed that several U.S. government policies, including Jackson's famous "specie circular" which required land offices to accept only specie which went into effect in August 1836, drained New York City banks of specie. Both of these explanations identify forces that increased the vulnerability of the banking system and set in motion a severe contraction; yet it is still possible that economic conditions would have evolved differently in the absence of the spectacular failures of Hermann, Briggs and the Josephs.

The Panic of 1839 cut short the recovery from the Panic of 1837 and ushered in a long depression, sometimes referred to as America's First Great Depression.
It is usually associated with the failure of the Bank of the United States of Pennsylvania in October 1839. After the Second Bank of the United States failed to win a renewal of its charter from the federal government, its President, Nicholas Biddle, won a charter from the state of Pennsylvania. The Bank then transformed itself into an aggressive investment bank. Much like the investment banks that failed prior to the Panic of 2008, the Second Bank funded itself partly with short-term interest bearing liabilities called post notes. Some of its funds were invested in cotton, on the expectation of a rise in its price. The Bank's cotton speculations have become famous, but it lost even more on its holdings of state government bonds, and these losses, according to John Wallis (2001, 23) were the major cause of the Bank's failure. The Bank of United States of Pennsylvania was preceded in death by the Morris Canal and Banking Company of New Jersey in August 1839. The Morris Bank had been chartered to build a canal in New Jersey but had also be given banking privileges, and like the Bank of the United

States of Pennsylvania had gotten heavily involved in marketing and investing in western state bonds.

For the most part these bonds were issued by western states for internal canals and railroads although some of the bonds financed state banks. The railroads and canals, of course, were expected to become profitable as settlers moved into these frontier states. Ultimately, then, one of the major problems for the Bank of the United States of Pennsylvania and the Morris Bank was (at two removes) real estate. Although the precise nature of the financial instruments are very different, the analogy between the failure of the Bank of United States of Pennsylvania and the Morris Canal and Banking Company and the failures of Lehman brothers and (the near failure) Bear Stearns were similar: Large holdings of debt whose price depended on hopeful real estate trends financed by short term liabilities.

The Panic of 1854, like the Panic of 1819, was most severe in the West. Cincinnati was the epicenter. The year 1853 was marked by railway construction in Ohio that "turned into a mania" (Berry 1943, 513). The railroads were unable to raise the cash they needed by borrowing in the eastern United States or Europe, so they turned to local banks. These were, according to Berry, private banks that lent to the railroads who offered their stock as collateral. It was a classic case of violating real bills. Interest rates rose substantially in the latter part of 1853 in response to the growing desperation of the railroads for funds. And then the western financial system was then hit by a series of disasters in 1854. In May a run on the Ohio State Stock Banks spread to Indiana and Illinois. The amount of eastern bank notes circulating in Cincinnati declined, and Indiana free bank notes filled the circulation. But in August after the failure of two Indiana free banks, the Cincinnati banks refused all of the Indiana notes.

The first headline in the *New York Times* to use the word *panic* occurred in October (*New York Times*, October 23, 1854, p. 3, reprinting a story from the Cincinnati Gazette) when several failures occurred almost simultaneously. The Kentucky Trust Company of Covington failed, and that led to a run on the Ohio Savings Bank in Cincinnati which had the same president. A private bank, P.B. Manchester also failed, and Ellis and Sturges, another private bank suspended. In November Ellis and Sturges and two other private banks closed. The run on Ellis & Sturges was sparked by a rumor that Ellis had died, but the revelation that he was simply very very ill did not save the bank. According to Huntington (1915, 445), the private banks were "well thought of houses." On December 1, 1854, according to Berry (1943, 514) "the merchants and manufacturers found no bank accommodations whatsoever." And according to Smith and Cole (1935, 128) the price of Cincinnati exchange in New York went from a normal discount of 1 - 1½ percent to 2¼ - 2½ in the autumn to 3½ – 3¾ in December. To be sure, there were real as well as nominal shocks hitting Cincinnati in 1854. A crop failure and low water on the Ohio that interfered with transport (both caused by a lack of rain?) added to and interacted with the banking problems. The Cincinnati economy recovered quickly after the first of the year 1855. The maximum discount on good commercial paper in Cincinnati which had risen from 12% in August to 18% in October, when the panic hit, was back to 18% in January 1855 and back to 12% in June.

Cincinnati was hit the hardest, but problems were more widespread. Chicago, according to Berry (1943, 516) suffered during the summer of 1854 from real estate speculation and from a panic in October caused by the “throwing out” [Berry’s italics] of Indiana free bank notes. In November eight Illinois banks were forced to close their doors. The problem was that the value of the state bonds that the secured the note issue in Illinois was falling, and the state auditor was compelled to demand more collateral from the banks (James 1938, 237), a circumstance known to the public. There were also financial troubles in New York (Ó Gráda and White 2003). Berry (1943, 516) describes the situation in the latter half of 1854 as one in which “trouble shot back and forth between New York and the Interior.”

The Panic of 1857 has long been associated by financial historians with the failure of the Ohio Life Insurance and Trust Company which was announced on August 24, 1857.[6] It is one of the few cases in which there do not seem to have been important precursors. Despite its name, the Ohio Life had done a large commercial banking business, and had an office in New York, which was the source of most of its troubles. Many of the weak assets were loans of one sort or another made to Midwestern railroads, although corrupt personal loans made by the New York agent were also important (Spiegelman 1948, Riddough and Thompson 2012). Fritz Redlich (1968, volume 2, 424) noted that George S. Coe, later an important business leader, was a trustee of the Ohio Life, and as such examined the books of the New York branch in 1857 “without discovering that the balance sheet was forged.”

[6] Redlich (1968, Volume 2, 273) contrasts the failure of the New York banks to come to the aid of Ohio Life with the success of the banks in New Orleans who came to the aid of the Citizens Bank and enabled it to continue payment in specie on it notes although not on its deposits.

Here is how Hugh McCulloch recalled the effect of the failure of the Ohio Life and Insurance Company in 1857.[7]

> The intelligence was astounding. It was a bolt from a cloudless sky. The Ohio Life and Trust Company had enjoyed the highest credit. Its home business had been managed in the most careful manner. It had been distinguished for its conservatism. Its directors, who were among its largest stockholders, met every day to pass upon the offering for discount. Not a bill or note, no matter how small, was discounted without their approval. It had thus acquired a high reputation, and secured large deposits (McCulloch 1888, 133).

Scholars have come down on both sides of whether the failure of Ohio Life was a key cause of the panic of 1857.[8] Charles Calomiris and Larry Schweikart (1991, 808, 817, 825) made what is perhaps the strongest case against a crucial role for the failure of Ohio Life. First, they argued that it was quickly recognized that the failure was the result of "mismanagement or possibly fraud." Presumably, people believed that most banks were well managed, a belief that was so strongly held that it could not be shaken merely by the revelation that one bank was not prudently managed. But possibly – this is the point that Bagehot made in the epigraph – the revelation that a bank with a sterling reputation was badly or fraudulently managed could undermine the assumption of generally prudent management and engender widespread distrust of the system. Calomiris and Schweikart also pointed out that there were no connections with other banks that would have created major difficulties for them, and that banks that were most connected – other Ohio banks – avoided suspension. And they pointed out that Ohio

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[7] McCulloch served for many years as president of Bank of Indiana. He was appointed Secretary of the Treasury in 1865 by Abraham Lincoln. After the Civil War he became a partner of Jay Cooke, and hence was affected by the failure of Cooke's bank in 1873. He also served as Secretary of the Treasury under Chester A. Arthur.

[8] Peter Temin (1975) suggested that the panic might have been caused by the decision by the Bank of England to raise its discount rate, an action that reminded Americans of what had happened prior to the panic of 1837.

Life was not a conventional commercial bank. But the assumption that panic cannot jump geographic or institutional boundaries should at least be considered a hypothesis to be tested rather than an obvious truth on which we can rely.

The Panic of 1873 began with the failure of Jay Cooke and Company on September 18, 1873.[9] Cooke was then probably the most respected and trusted American financier; surely the only one who enjoyed as much prestige on Main Street as on Wall Street. Cooke had helped finance the Civil War by establishing a network of agents throughout the North to sell government bonds to middleclass investors. After the war these investors looked to Cooke and his agents for financial advice. When Cooke's firm had to close its doors, the shock was palpable.

> "Like a thunderclap in a clear sky" said the Philadelphia Press. No one could have been more surprised said the Philadelphia Inquirer, if snow had fallen amid the sunshine of a summer noon" (Oberholtzer 1907, 423).

Cooke had invested heavily in railroads, in particular the Northern Pacific. Building the road was costly for many reasons, including the opposition of the Sioux through whose land it would run, and Cooke, who bet everything on the success of the Northern Pacific, kept making advances to the railroad even when he was unable to recoup the outflow by selling bonds. According to Henrietta Larson (1936, 410) "Cooke & Co. broke under the weight of its many investments in and advances to railroads, including the Northern Pacific, the Lake Superior and Mississippi, and other smaller roads." A balance sheet released by the bank shortly after it closed its doors (*New York Times*, Sept. 27, 1873, 1) painted a rosy long-run picture, based one presumes on book values. Assets greatly exceeded liabilities; leverage (assets/capital) was moderate,

[9] This section is based mainly on Larson (1936) and Oberholtzer (1907).

1.66. But even this accounting showed that at a minimum, 50% of the assets consisted of loans to railroads, and the percentage would have been much higher if all of the asset categories were accurately labeled. A year later the receiver reported $5,658,335 in assets and $8,481,647 in liabilities (*New York Times*, Jan. 15, 1874, 1).

The Panic of 1884 began with the failure of Grant & Ward, a brokerage, on May 8, 1884. The Grant of Grant and Ward was Ulysses S. Grant, the commander of Union forces in the Civil War, and twice President. This is a case where the reputation of the firm depended on the financial sophistication of the investor. Ferdinand Ward, Grant's partner, was known to be a speculator, but seems to have had a good reputation, at least in some quarters, in the early days of the firm. He was known, according to Sobel (1999, 219), as one of the "young Napoleons of Wall Street." Ulysses Grant, despite some scandals during his Presidential administrations, was still one of America's most beloved leaders. His business acumen, however, was questionable. At some point before the failure of the firm word of Ward's shenanigans spread among the financial cognoscenti. When Grant went to William Vanderbilt for $150,000 in a last ditch effort to save the firm Vanderbilt, according to Sobel (1999, 215), told Grant:

> "as for Grant & Ward – what I have heard of that firm would not justify me in lending it a dime. But I'll lend you a hundred and fifty thousand dollars personally, to you – General Grant – I'm making this loan, and not to the firm."

Vanderbilt's understanding of the failure soon became general: a crook, Ward, had taken advantage of a great and honest man, Grant. The effect of the failure of Grant and Ward was multiplied by the suspension of the Metropolitan National Bank a week later. The President of the Metropolitan, George Seney, who according to Sobel (1999, 219), was "a well-known patron of the arts," and was "thought beyond suspicion" was using the bank's money to speculate in railroad stocks. The Clearing House issued loan certificates for the Metropolitan and it reopened in a few days. The prompt issue of Clearing House certificates seems to have quelled the panic before it could do major damage (Sprague 1910, 111-15; Wicker 2000, 40). The rapid framing of the problem as one caused by a few crooks, some of whom had fled and were being sought by the police, could also help account for the mildness of the panic.

The Panic of 1890, like the Panic of 1884, was mild. Sprague (1910) refers to it as a "financial stringency" rather than a panic; Wicker (2000) refers to it as "banking unrest." Like the Panic of 1837 it was strongly shaped by events abroad. Indeed, Sprague (1910, 128) thought that there would have been no panic in the United States if it had not been for the Baring Crisis in Britain. There were, however, important failures in the United States before news of the Baring crisis crossed the Atlantic. The stock market panic, which led to the banking difficulties, was triggered, according to Wicker (2000, 45) by the failure of "the large and well respected brokerage firm of Decker Howell and Co." Decker and Howell and the Boston brokerage of C. M. Whitney which also failed had been investing heavily in railroad securities.

The Panic of 1893 started with a stock market crash in New York and a banking panic in Chicago. Frank Cyril James (1938, 580-591) provides a detailed description of the banking panic. On Monday, May 8, 1893 the Chemical National Bank of Chicago suspended and soon went into receivership. Shortly thereafter the Capital National Bank of Indianapolis, which was closely associated with the Chemical National, and the Evanston National Bank, also went into receivership. The Chemical National was widely regarded as an unsound institution by Chicago bankers, many of the loans being notes of insiders and the Clearing House Committee refused to aid the bank. As things turned out, however, some of the bank's depositors were protected. The Chemical National had won the right to have a branch at the Chicago World's Fair (World's Columbian Exposition).[10] The branch had $100,000 in deposits, many from foreign exhibitors, and so a committee of wealthy Chicagoans was formed to guarantee the deposits. The managers of the Fair did "not desire an exhibition of a failed national bank among the interesting collection on the Midway Pleasance" (James 1938, 582). A few days later the Columbia National Bank and United States Loan and Trust Company with which it was intimately connected closed their doors. The Columbia National and the United States Loan and Trust were both controlled by Zimri Dwiggins who had created a financial house of cards. The base was the Trust Company which issued bonds the proceeds from which he used to purchase stock in country banks. When Dwiggins banks failed, the country banks went with them. Again, the Chicago Clearing House refused to aid the Bank. With banks in Chicago and rural Illinois and Indiana failing, the panic seemed to be well underway.

The public, however, retained some confidence in the Chicago banks, despite the failures of the Chemical National, Evanston National, and Columbia National. But then on Saturday June 3, Herman Schaffner and company broke. The firm initially had specialized in commercial paper, but had been drawn into financing local businesses including speculators in street-railway stocks and real estate developers (Judy 2013). Schaffner hired a boat and rowed into Lake Michigan from which his body was later

[10] The Chemical National had paid $20,000 for the right to the branch. Having a branch required special permission from Congress because Illinois was a unit banking state. National banks were required to follow state law on this issue.

recovered. Following Schaffner's failure a near panic, concentrated among the savings banks, took hold. It is said that 35,000 depositors in the Illinois Trust and Savings Bank presented themselves.

For a time the banks in Chicago once more seemed to be on the mend. But then the panic spread. On Monday July 17, The Missouri National Bank failed, bringing with it a string of failures, and on July 25, the Wisconsin Marine and Fire Insurance Company Bank of Milwaukee. The Wisconsin Marine was a legendary institution. It was founded in 1839 by George Smith, a young Scottish immigrant. The charter permitted Smith to write insurance and do some banking. He had no authority, however, to issue bank notes, but he did so anyway. He issued, to be more specific, certificates of deposit in convenient denominations payable to bearer that circulated widely in the Midwest (Farwell 1905, Smith 1966). Smith's early days have been celebrated by a number of writers for whom "George Smith's money," as it came to be known, was a wonderful example of how an unregulated bank can successfully supply currency. The role of the bank in the crisis of 1893, however, has received less attention.

Smith retired at a relatively young age and returned to Britain. His deputy, Alexander Mitchell, a fellow Scott, continued to run the bank successfully for many years. Later, Mitchell's son, U.S. senator John L. Mitchell, became president of the bank. Under his leadership the Bank abandoned its prudent ways. It invested heavily in the debt of Ferdinand Schlesinger, a "plunger" in the vocabulary of the time, who had been borrowing heavily from several institutions to finance an ambitious plan to dominate Great Lakes iron ore production. The bank also lent heavily to insiders including Senator Mitchell. To outsiders, however, the bank's suspension was a shock.

According to Cyril James (1938, 593) at the time the Wisconsin Marine and Fire Insurance Bank suspended it had been "a legendary example of financial soundness throughout the northwest for more than half a century." To describe the height of the crisis in 1893 Sprague turned to an extract from the *Commercial and Financial Chronicle*, as he did with other financial crises. The *Chronicle* told the story this way.

> Monday and Tuesday an unusual number of failures among our banks and private firms were reported in various parts of the country, but especially in the West, some of them being concerns of long standing and high repute (Sprague 1910, 176).

The *Chronicle* didn't say exactly what institutions it had in mind, but the timing points to the Wisconsin Marine and Fire Insurance Company Bank.

The *Wall Street Journal* (July 29, 1893, 4) reprinted an extract from a market newsletter that began as follows.

> This has been the worst week the writer has ever known in Wall Street and that by a long way. The failure of the Wisconsin Marine & Fire Insurance Bank of Milwaukee was of course a shock to Wall Street. It was not only that the Bank was an old one in high credit, but that the big owners has a lot of stock of Northwest and St. Paul which had been coming on the market to provide funds.

In this case, however, there was redemption. The shareholders were personally liable under an 1880 law and Senator Mitchell, the largest shareholder, lost heavily (*New York Times*, November 16, 1893, 4), but the firm was reorganized and reopened. Years later the Wisconsin Marine and Fire was merged with another pioneer bank to form the Marine National Exchange Bank of Milwaukee (Smith 1966, 177-8). More acquisitions followed, and today George Smith's Bank can be found in the DNA of JPMorgan Chase & Co.

The Panic of 1907 was precipitated by the suspension of the Knickerbocker Trust on October 22, 1907. Sprague's (1910, 246-56) account of the panic is especially important because it was fresh in his mind when he began his classic history of financial panics. According to Sprague (1910, 246) the precipitating event was a "copper gamble," a failed attempt to corner the copper market. F. Augustus Heinze who was behind the copper speculations had gained control of the Mercantile National Bank. This led to withdrawals by depositors concerned about Heinze's solvency. The bank requested assistance from the New York Clearing House which was granted on the condition that Heinze and his board resign. The Bank was able to open under these conditions, but was closed in January 1908. In the wake of the troubles at the Mercantile National, the Clearing House was called upon to aid a number of other banks that had suffered withdrawals because of their relationships with Heinze. The aid provided by the Clearing House was successful. There was no panic, but Sprague (1910, 249) adds that these difficulties "doubtless gave rise to a vague feeling of distrust."

Attention then turned to the Knickerbocker Trust, the third largest Trust in New York. The Knickerbocker, like other Trusts, did a banking business under a state charter, and competed aggressively with the national banks in New York. The trusts were not allowed to issue bank notes, but in general they were less regulated than the national banks. Some underwrote security issues, but they also wrote mortgages and invested directly in real estate, a field where the participation of National banks was limited. The reputation of the Knickerbocker, and of its President Charles T. Barney, seems to have been excellent prior to the run (Bruner and Carr 2007, chapter 9, *passim*). It had grown rapidly and become the third largest trust in New York. In 1904 it had completed a new headquarters designed by the famous architect Stanford White.

The problem for the Knickerbocker was the ties of its President, Charles T. Barney to Charles W. Morse, a financier in turn tied to Heinze and the latter's attempt to corner the copper market. On Monday October 21, Barney was forced out at a directors meeting closely watched by J.P. Morgan (Tallman and Moen 1995; *Washington Post*, October 22, 1907, 3). About the same time one of the New York national banks announced that it would not clear for the Knickerbocker. A heavy run which forced the Knickerbocker to suspend came on Tuesday. From there the panic spread rapidly, although the heaviest damage was done to the Trust Companies (Moen and Tallman 2000). The Knickerbocker was able to resume in March 1908.

The Panic of 1930 began with two failures: Caldwell and Company in November 1930 and the Bank of United States in December. Caldwell and Company was an investment bank that had expanded rapidly in the 1920s. It controlled a half-billion dollar financial empire that included the region's largest chain of banks, eight insurance companies, twenty-four business and industrial enterprises, an investment trust, newspapers, and a professional baseball team" (Hamilton 1985, 591).[11] Its reputation at the end of 1929 was excellent. According to John McFerrin (1969, 119), the historian of Caldwell and Company, by then "it had so increased its size and built up such prestige in financial circles that it was referred to as the 'Morgan of the South.'"

Caldwell and Company was heavily leveraged: On June 30, 1926 capital was 10.1 percent of total assets; by the end of 1929 it was 4.7 percent. To finance its operations it relied heavily on deposits, particularly from municipalities made as part of deals for the purchase of municipal bonds, and deposits from Caldwell controlled

[11] Half a billion dollars in 1930 would be $34 billion in 2012 using per capita income to inflate. (www.measuringworth.com).

companies. The largest asset category included the common stocks of the companies it controlled. These would not have been liquid even in the best of times because controlling interests in unlisted regional firms could not be disposed of on short notice (McFerrin 1969, 119-20).

The story of the failure of the Bank of United States in 1930 is reminiscent of the failure of the Wisconsin Marine and Fire Insurance Company Bank in 1893. The Bank of United States was founded in 1913 by Joseph S. Markus on New York's famous Lower East Side and had done a conventional banking business. But under his son, Bernard K. Marcus, who became president in 1927, it expanded rapidly through mergers and acquisitions establishing branches throughout the city, and began an aggressive investment program. Many of these investments were made by affiliates – including the oddly named Bankus Corporation – set up to evade legal restrictions on mortgage lending. According to Peter Temin (1976, 92) most of the bank's impaired loans were the result of "direct or indirect claims on real estate."

The reputation of the Bank of United States at its failure in December 1930 probably varied among different sectors of the public. As Friedman and Schwartz (1963, 309-11) suggested, the fact it was the largest failure in U.S. history to that point, that it's name suggested a special relationship to the government, and that it was a bank in New York City, the nation's financial center may have led unsophisticated investors to think that a fundamental pillar of the financial system had collapsed. On the other hand, more knowledgeable investors may have recognized that it was not a Wall Street Bank, not a national bank, but rather a state bank that had expanded rapidly in the late 1920s, and one that had indulged in speculative real estate ventures. There was at the time a debate about whether the bank should be bailed out. In the end it was not, the consensus being that its failure would have only local effects; in today's language, it was not "systemically important."

The Bank of United States dealt, at least when it began, mainly with Jewish customers. In an article in *Business Week* and in his TV program "Free to Choose," Friedman suggested that anti-Semitism played a role in the decision not to bail out the Bank of the United States.[12] Friedman's contentions about the role of anti-Semitism were vigorously challenged and vigorously defended (Peter Temin 1976, 90-93, Joseph Lucia 1985, Friedman and Schwartz 1986, Anthony Patrick O'Brien1992, and Paul B. Trescott 1992). In this respect there is a strong parallel with the Panic of 1837. In that episode, both firms that failed precipitating the crisis were led by German Jews. It does not seem that this caused much of a problem before they failed, but anti-Semitism doses seem to have influenced the way some people thought about the failures afterwards (Lepler 2007, *passim*).

In any case, whether the members of the Clearing House thought that the failure of the Bank of United States could be ignored because only local businesses and depositors would be affected or because only local Jewish businesses and Jewish depositors would be affected, and whether they were concerned about real estate investments or Jewish real estate investments, it is clear that the failure of the Bank of the United States was viewed as a failure that would not start a panic. The mistake was failing to recognize that an institution that was considered unimportant by the financial

[12] Friedman and Friedman (1980) is the volume based on the TV series. The episodes are available on youtube.

cognoscenti might be considered very important by the general public, especially in the context of unrelenting news about deteriorating economic and financial conditions.

One could argue about which of these two failures was the real trigger for the panic. But the two failures (and a contemporaneous wave of smaller failures) probably reinforced one another. The implication of having two large financial institutions in different parts of the country failing one after the other along with numerous failures of smaller banks was that your money really wasn't safe in any bank. Again, this is reminiscent of the twin failures in 1837, one in New Orleans and one in New York. The banks that failed in 1930 evidently failed for the same balance-sheet reasons that banks had failed in the late 1920s (White 1984). An extensive debate has proceeded on whether the failures in the 1930s were the result of illiquidity or insolvency. A recent paper by Bordo and Landon Lane (2010) argues that the problem was mainly illiquidity and surveys the earlier literature.

But the quantitative evidence is clear that whatever the cause of the failures, doubts about the safety of the banking system took a turn for the worse after them. Friedman and Schwartz (1963, 311) looked at currency held by the public and bank reserves which both show upward trends starting in late 1930. A similar piece of evidence is shown in Figure 1 which plots postal savings monthly from January 1929 to December 1932. It is a classic "hockey stick" with the inflexion point in November 1930.

3. Singletons or Multiples?

The third column of Table 1 lists the failures that contemporary observers and historians of the panics have identified as the key failures. In each panic the failures are listed in chronological order. The one next to the panic year is the one that occurred closest in time to the panic. There are, of course, some ambiguous cases. There are always going to be failures, and it is always a judgment as to whether a particular failure contributed to the change in social psychology that we identify as a panic. In two cases – 1857 and 1873 – there seems to have been only one important failure, although even these cases could be questioned. Typically, however, there was a cluster of failures. Clusters make sense. An initial failure or failures puts people on high alert; ready for fight or flight. Then, a subsequent failure or failures ignites a full blown panic. The first failure might mean that an individual firm had made some bad mistakes: the prudent stance would be watchful waiting. The second or later failure would show that the problem was systemic: the prudent stance was "run for the hills." The Panic of 1907 provides a good example. Several national banks came under pressure, and resort was had to Clearing House loan certificates. These banks did not fail, but as Sprague (1910, 249) pointed out these difficulties "doubtless gave rise to a vague feeling of distrust." Then the run on the Knickerbocker Trust unleashed a full blown panic. In some cases the cluster was small, two or three, but in a few cases the cluster included a large number of smaller firms.

Typically, a cluster of failures that precipitated a panic included firms from different parts of the country and/or different parts of the financial system. Again, this is plausible. A failure in just one part of the country or one part of the financial system might be addressed by shifting funds to a safer region or type of financial institution. But once failures had leaped these boundaries the natural conclusion would be that money wasn't safe in any kind of bank; only cash or government bonds were really safe. The Panics of 1837 and 1930 illustrate the crossing of regional boundaries. The important failures in 1837 were in New Orleans and New York; in 1930 in Nashville and New York. The Panic of 1893 illustrates the crossing of institutional boundaries; there were failures of national banks, state banks, savings banks, and private banks. The Panic of 2008 was similar, in short order we saw national banks, investment banks, government sponsored lenders, and a giant insurance company under threat.

4. Were they shadow banks?

Unregulated or lightly regulated financial institutions, what today we would call shadow banks – or perhaps following Michener and Richardson (2013) with reference to the lightly regulated banks, “shadowy banks” – have been an important part of the U.S. system since the founding of the republic. The classic descriptions of the private banking sector in the nineteenth century are Fritz Redlich (1968, part II, chapter xiv, 60-84) and Richard Sylla (1976). But were failures of these shadow banks important triggers for financial crises? The bottom line answer is yes. Column 3 of Table 1 lists the banks that triggered the most important financial crises. Banks that were regulated at the federal level are unshaded, banks that were regulated at the state level are filled with a light shade of gray, and banks that were unregulated (even if they had a government charter) are filled with a darker shade of gray.

One could question whether state regulated institutions were shadow banks. The banking panic of 1930, for example, was triggered by the failure of two institutions: Caldwell and Company in November 1930 and the Bank of United States in December 1930. Caldwell and Company was an investment bank that relied heavily on short-term deposits to finance stock purchases. It would surely qualify as a shadow bank under the contemporary definition. The Bank of United States, on the other hand, was a state chartered institution and a member of the Federal Reserve System. It could be argued that since it was a regulated institution it was not a shadow bank. But regulation at the state level was often ineffective; hence the decision to fill the cells for the state regulated banks with a lighter shade of gray.

The ink tells the story: shadow banks played a prominent role in precipitating all of the panics. The importance of shadow banks in America's financial crises, therefore, was present from the beginning. The failure of state banks was important in the Panic of 1819. A cotton factor and a brokerage were the triggers for the Panic of 1837. The Bank of United States of Pennsylvania became an investment bank and hedge fund, which failed triggering the Panic of 1839. The Bank of United States of Pennsylvania was preceded in death by the Morris Canal and Banking Company which had made similar investments. The New York office of a Trust company chartered by Ohio was the problem in 1857. The failure of an unregulated investment bank, Jay Cooke and Company, was the trigger for the panic of 1873. An unregulated brokerage, today we might be called a hedge fund, Grant & Ward, triggered the panic of 1884. Unregulated brokerages were part of the cluster that produced the Panic of 1890. The failure of national banks figured prominently in the run-up to the Panic of 1893, but so did the failure of unregulated private banks. Again in 1907 troubles at national banks were important, but a lightly regulated trust company triggered the panic.

Why were shadow banks so important? Shadow banking was encouraged by several factors. One was state chartering of commercial banks that produced a geographically fragmented banking system. Branching across state lines was prohibited through most of our history and banks were often small, geographically limited affairs that could not provide capital for industrial firms. The stock and bond markets expanded to fill the gap, and these markets required brokerages and investment banks. Another factor making for shadow banking was reliance on the real bills doctrine as a basis for regulating chartered banks -- reflected for example in prohibitions against real estate lending -- that created gap in the financial system for private institutions to fill. Perhaps a legal ethos in the United States that held that what was not forbidden was permitted played a role as well.

5. Why did they fail?

The institutions that failed and precipitated panics did so because, typically, they violated two cardinal rules of banking: (1) they made long-term investments leveraging their investments with short-term deposits or deposit like liabilities, creating a severe maturity mismatch, and (2) they put all their eggs in one basket. Part of the financial system, as noted above, avoided the first problem by adhering to the “real bills doctrine,” the idea which goes back to Adam Smith that banks should invest solely in short-term self-liquidating loans, originating in commodity transactions: “real bills.” The real bills doctrine, as economists have long recognized, cannot provide a useful rule for the conduct of monetary policy. But it does provide a useful guide for an individual bank that wants to avoid trouble. An important corollary of real bills is that a bank should avoid real estate. Here is how Adam Smith put it in the *Wealth of Nations*.

> …of the capital which the person who undertakes to improve land employs in clearing draining, enclosing, manuring, and ploughing waste and uncultivated fields, in building farm-houses with all their necessary appendages of stables,

> granaries, etc. … such expenses, even when laid out with the greatest prudence and judgment, very seldom return to the undertaker till after a period of many years, a period far too distant to suit the conveniency of a bank (*Wealth of Nations* II.ii.64).

The second point, don't put all your eggs in one basket, sounds like grandmother's economics; surely the great Lords of Finance must have been making more sophisticated mistakes. But a reading the literature on the crucial failures suggests that this is exactly what they did. The areas, in which they over-invested, where known, are shown in the last column of Table 1.

Real estate, the problem in 2008, featured prominently in the Panic of 1819. The western banks that failed, sparking the panic, had invested heavily in real estate, typically giving farmers mortgages so that they could buy land from the federal government. Many of the subsequent nineteenth century failures that precipitated panics started with investments in railroads. But investments in railroads in the nineteenth century typically were investments in real estate at one remove. The Ohio Life Insurance and Trust Company, the failure that started the panic of 1857, had invested heavily in local railroads. Jay Cooke and Company, the trigger for the panic of 1873, had also invested heavily in railroads, in particular the Northern Pacific. The bonds that Cooke took as collateral were secured by land grants that were expected to rise in value as the land was settled. Railroads were also part of the story in 1884 and 1890.

The failure of the Bank of the United States of Pennsylvania in 1839 may appear on the surface to have been different because the Bank's biggest problem was the decline in value of its holdings of western state government bonds. But these bonds were being issued to finance canals, railroads, and banks in frontier states. The hope was that settlers and economic activity would follow the completion of these internal improvements providing the tax revenues to pay the bonds. The problem, in other words, was real estate at two removes. The exact details of the financial instruments that Bank of the United States of Pennsylvania relied on were different from the instruments relied on by the investment banks that got into trouble in 2008. The Bank of the United States of Pennsylvania levered its capital by issuing “post notes” rather than repos; it invested in state government bonds ultimately, rather than on privately issued collateralized debt obligations. But viewed from a more distant perspective, the stories are similar. In both cases an investment bank came to grief because it relied on short-duration financing and invested in assets that held the illusion that they were highly liquid securities, but rested on unrealistic hopes for real estate appreciation.

Caldwell and Company, whose failure in November 1930, sparked runs in the South was an investment bank that got into trouble through classic violations of the real bills doctrine. It was heavily leveraged: On June 30, 1926 capital was 10.1 percent of total assets; by the end of 1929 it was 4.7 percent. To finance its operations it relied heavily on deposits, particularly from municipalities made as part of deals for the purchase of municipal bonds, and deposits from Caldwell controlled companies. The largest category of its assets included the common stocks of the companies it controlled. These would not have been liquid even in the best of times because controlling interests in unlisted regional firms could not be disposed of on short notice (McFerrin 1969, 119-20).

The story of the failure of the Bank of United States in 1930 is reminiscent of the failure of the Wisconsin Marine and Fire Insurance Company Bank in 1893. The Bank of

United States was founded in 1913 by Joseph S. Markus on New York's famous Lower East Side and had done a conventional banking business. But under his son, Bernard K. Marcus, who became president in 1927 it expanded rapidly through mergers and acquisitions establishing branches throughout the city, and began an aggressive investment program. Many of these investments were made by affiliates – including the oddly named Bankus Corporation – set up to evade legal restrictions on mortgage lending. According to Peter Temin (1976, 92) most of the bank's impaired loans were the result of "direct or indirect claims on real estate." I won't rehearse here the reasons for the failures that sparked the Panic of 2008, but it should be clear that real estate speculation and spectacular failures were not new phenomena.

6. What were their reputations prior to suspension or failure?

Bagehot, as the epigraph shows, thought that a panic could be started by "the sudden failure of a great firm which everybody trusted." This makes sense. The failure of a firm that has a questionable reputation is unlikely to cause a general revision in asset evaluations and a flight to safety. Its failure was expected. On the other hand, the failure of a firm with a sterling reputation may cause, in the right circumstances, widespread rethinking. If X, which everyone said was beyond reproach, can be rotten to the core, then how can I trust any firm; how can I have faith in any of my investments, except government bonds or cash?

Bagehot was thinking, I suspect, mainly about the British panic of 1866, the last before *Lombard Street* (1873). That panic was triggered by the failure of Overend, Gurney, & Co. Before the crisis Overend, Gurney stood, according to Bagehot, "next to the Bank of England in the City of London" and was "the most trusted private firm in England" (Bagehot 1924 [1873], 17, 175). The banking system in Bagehot's day was evolving: joint stock banks were supplanting private banks. But that didn't change the possibility that the failure of a trusted firm could start a panic.[13]

> Now, no cause is more capable of producing a panic, perhaps none is so capable, as the failure of a first-rate joint stock bank in London. Such an event would have something like the effect of the failure of Overend Gurney & Co.; scarcely any event would have an equal effect (Bagehot 1924 [1873], 251).

The American experience provides abundant additional evidence that it is the failure of trusted firms that sparks panics. To be sure, we have to rely mainly on the testimony of contemporary observers about the reputation of the firms that failed. Conceivably, there was a tendency to stress the high reputation of an institution that failed in order to stress the extent of the calamity: "Oh how the mighty have fallen." However, the observations of many contemporary observers and historians speaking about panics that occurred in very different historical periods suggest that a high reputation was more than a useful hyperbole.

The Panic of 1837 was triggered by the failures of Hermann, Briggs, & Co. in New Orleans and J.L. & S. Josephs in New York. My conjecture, from admittedly limited evidence, is that both firms had excellent reputations before they went down. For one thing, the Josephs were known to be clients of the Rothchilds and that must have been

[13]Overend, Gurney had invested heavily in railways, and other long-term investments. When discussing the losses of Overend Gurney, Bagehot (1924 [1873], 18) wrote that "these losses were made in a manner so reckless and so foolish that one would think a child who had lent money in the City of London would have lent it better."

viewed as a marker of distinction.[14] The New York *Herald* (March 18, 1837, column A), although perhaps an ally, positively gushed about the Josephs after their failure.

> The Josephs and their partners were the favorites of the merchants of New York – their liberality – their aptitude for business – their gentlemanly behavior and their honorable conduct – their frank, unassuming manners – have made for them, in their days of prosperity, 'troops of friends.

The Ohio Life Insurance and Trust Company, the trigger for the Panic of 1857, was also highly regarded before it collapsed. Recall the description of the bank by Hugh McCulloch.

> The Ohio Life and Trust Company had enjoyed the highest credit. Its home business had been managed in the most careful manner. It had been distinguished for its conservatism. Its directors, who were among its largest stockholders, met every day to pass upon the offering for discount. Not a bill or note, no matter how small, was discounted without their approval (McCulloch 1888, 133).

Jay Cooke and Company which failed on September 18, 1873, sparking the Panic of 1873, enjoyed an even higher reputation. Cooke was the most respected and trusted American financier; surely the only one who enjoyed as much prestige on Main Street as on Wall Street. Cooke had helped finance the Civil War by establishing a network of agents throughout the North to sell the bonds to middleclass investors. After the war these investors looked to Cooke and his agents for financial advice. When Cooke's firm closed its doors, the shock was palpable.

> Like a thunderclap in a clear sky" said the Philadelphia Press. No one could have been more surprised said the Philadelphia Inquirer, if snow had fallen amid the sunshine of a summer noon" (Oberholtzer 1907, 423).

The panic of 1884 began with the failure of Grant & Ward. This is a case where the reputation depended on the financial sophistication of the investor. Ferdinand Ward,

[14] Samuel Hermann had tried ally himself with the Rothchilds, based on the recommendation of the Josephs, but was not accepted.

Grant's partner, was known to be a speculator, but seems to have had a good reputation, at least in some quarters, in the early days of the firm. He was known, according to Sobel (1999, 219), as one of the "young Napoleons of Wall Street." Ulysses Grant, despite some scandals during his Presidential administrations, was still one of America's most beloved citizens. Ward, however, was in over his head. He raised funds by promising high returns and made good with Ponzi financing, and made bad bets on Union Pacific and Western Union. Shortly before the failure of the firm word of Ward's shenanigans began to spread among the financial cognoscenti. When Grant went to William Vanderbilt for $150,000 in a last ditch effort to save the firm, Vanderbilt, according to Sobel (1999, 215), told Grant:

> …as for Grant & Ward – what I have heard of that firm would not justify me in lending it a dime. But I'll lend you a hundred and fifty thousand dollars personally, to you – General Grant – I'm making this loan, and not to the firm.

Vanderbilt's understanding of the failure soon became general: a crook, Ward, had taken advantage of a great and honest man, Grant. The effects of the failure were multiplied by the suspension by the Metropolitan National Bank a week later. The President of the Metropolitan, George Seney, who according to Sobel (1999, 219), was "a well-known patron of the arts," and was "thought beyond suspicion" was using the bank's money to speculate in railroad stocks. The Clearing House issued loan certificates for the Metropolitan and it reopened in a few days. The prompt issue of Clearing House certificates quelled the panic before it could do major economic harm (Sprague 1910, 111-15; Wicker 2000, 40). The rapid framing of the problem as one caused by a few crooks, some of whom had fled and were being sought by the police, could also help account for the mildness of the panic.

In 1890 the failure of the New York brokerage, Decker Howell and Co., which Wicker (2000, 45) described as "large and well respected," was important. In 1893 there was a large cluster of failures. The coup de grâce was the failure of the Wisconsin Marine and Fire Insurance Bank which at the time in suspended had been, according Cyril James (1938, 593) "a legendary example of financial soundness throughout the northwest for more than half a century." The reputation of the Knickerbocker trust before is suspended in 1907 seems to have been excellent. Only three years before it had opened its magnificent new headquarters on Fifth Avenue designed by the famed architect Stanford White. The reputation of the Bank of United States which failed in December 1930 – the failure that Friedman and Schwartz stressed – was probably somewhat mixed. But the reputation of Caldwell and Company, which failed the month before, seems to have been excellent. According to John McFerrin (1969, 119), the historian of Caldwell and Company, by the late 1920s the bank "had so increased its size and built up such prestige in financial circles that it was referred to as the 'Morgan of the South.'"

The crisis of 2008 may appear to be an exception to the rule that it is the failure of trusted firms that start panics. The price of Lehman Brothers' stock had been falling for some months before it filed for bankruptcy protection on September 15, 2008. But dial the clock back to 2007. In March *Fortune Magazine* released its annual list of America's Most Admired Companies based on surveys of corporate executives and Wall Street analysts. Lehman Brothers Holdings (see table 1) was ranked number one among securities firms in 2007 ahead of Goldman Sachs, Morgan Stanley, Merrill Lynch, etc. Which firm was number two? Bear Stearns! True, by March 2008 the two had fallen a bit. Lehman Brothers was now ranked third among securities firms and Bear Stearns, which was only two months away from its government aided acquisition by JPMorgan, was ranked eighth. The other firms that would play a role in the panic also did well in the 2007 rankings. American International Group ranked seventh in the property and casualty group ahead of State Farm and Nationwide. Countrywide Financial ranked third among Mortgage Service companies, IndyMac Bancorp ranked seventh, and Freddie Mac ranked ninth.[15] Clearly the fall from grace of Lehman Brothers must have been unsettling, but its failure did not come as a total surprise. Another factor, as suggested by Anna Schwartz and others, may have added to the shock of Lehman's failure: markets were surprised because they were expecting a bailout along the lines of the Federal Reserve assisted purchase of Bear Stearns (Ryssdal 2009; Sorkin 2009, epilogue, Kindle locations 10281-10335).

7. Conclusions

Reinhart and Rogoff (2009) showed that most financial crises share important common features and Gary Gorton (2010) showed more specifically that the Panic of 2008 is strongly reminiscent of nineteenth century U.S. banking panics. This survey reinforces their point. The failures that ignited America's panics, from the Panic of 1819 to the Panic of 1930, were similar to the failures that ignited the most recent crisis. Typically, panics were sparked by a cluster of failures that included firms from different parts of the country and different parts of the financial system. Shadow banks, either completely unregulated brokerages or investment banks, or banks that were lightly regulated by

[15] Fannie Mae did not make the top 10.

state governments, played a prominent role. The firms that failed had good reputations, but had made bad bets on real estate, railroads, or mines.

Why, given the high frequency of panics in the nineteenth and early twentieth centuries, did we go so long without a crisis after the banking panic of the early 1930s? One factor that has been cited repeatedly, and undoubtedly played a role, was the increased regulation of banking that came with the New Deal. Deposit insurance, importantly, mitigated the tendency of people to run to their bank and demand cash at the first sign of trouble. But this survey suggests that there was another equally if not more important factor: the presence after World War II of a central bank that was able (in part because of the abandonment of the constraints of the gold standard) and willing (in part because it had learned the lesson of inaction during the Great Depression) to act as lender of last resort.

The United States had two central banks in the 19th century and during the time they were in operation the United States was able, for the most part, to avoid financial crises. The exceptions were the panic of 1819 and the panic (or financial stringency) of 1833-34. Both panics seem to have begun with contractionary policies adopted by the Bank itself.[16] The First and Second Banks, however, faced considerable opposition. State chartered banks and the governments that chartered them were jealous of their federal competitor. Revelations about corruption hurt the Banks. And the North-South divide – Southerners did not want a central bank headquartered in a Northern city – combined to undermine support for the First and Second Banks. There ensued a long period without a central bank (1837-1913) marked by frequent banking panics. The

[16] On 1833-1834 see Meerman (1963).

creation of the Federal Reserve in 1913 created an institution with the power to act as lender of last resort, but for a number of reasons it did not act in that capacity during the 1930s.

There were a number of events in the postwar period – for example, the failures of Continental Illinois in 1984 and Long-Term Capital Management in 1998 – that prior to 1945 might well have precipitated a financial crisis, but these events were prevented from doing so by the timely intervention of the Federal Reserve. In 2008 the Federal Reserve almost pulled off another save, but the decision to let Lehman Brothers go provoked an old school financial panic. Recent financial legislation hopes to prevent a recurrence by identifying “systemically important” financial institutions. But the history U.S. financial panics suggest that this will be a difficult task.

Figure 1.

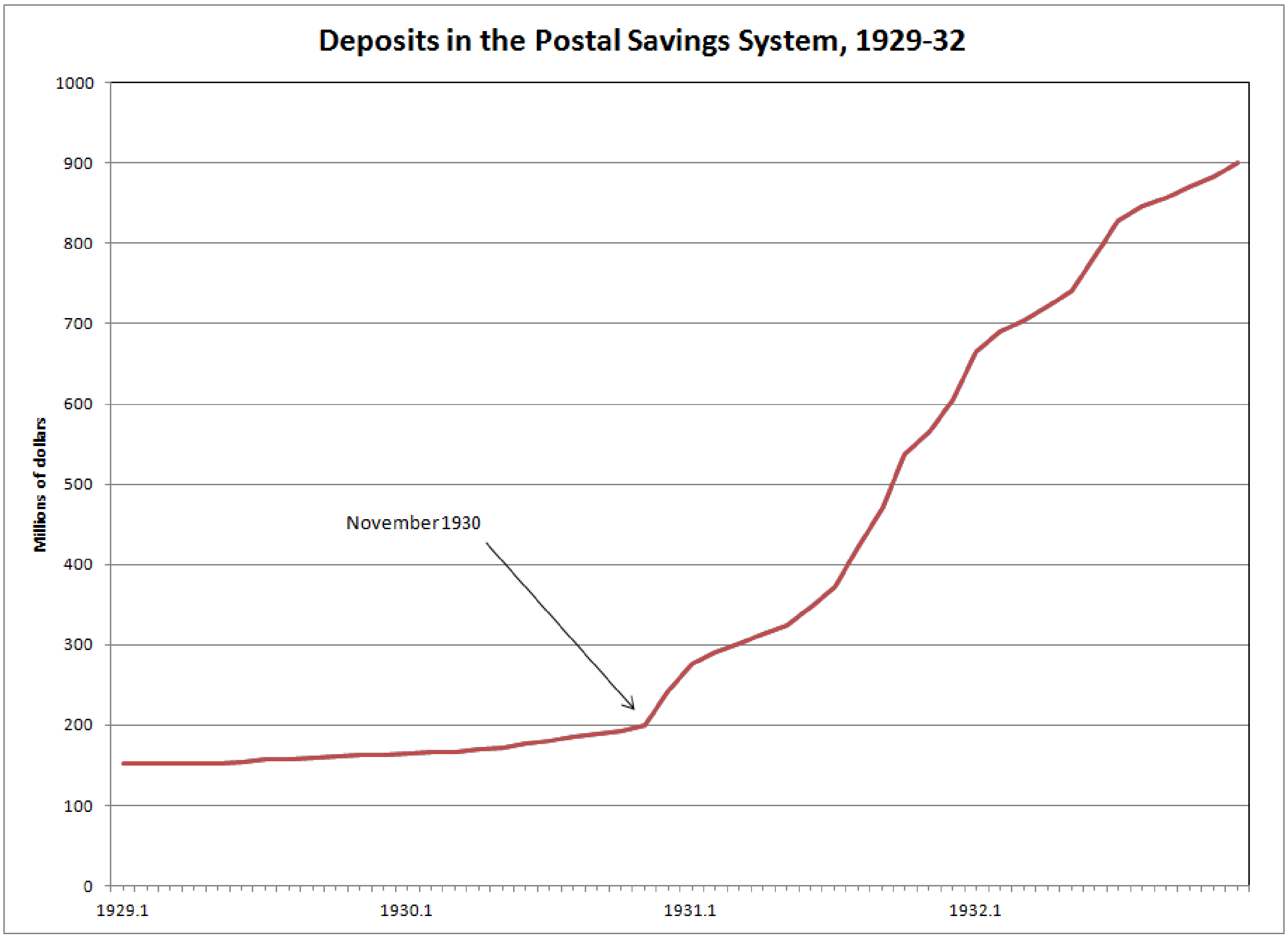
Deposits in the Postal Savings System, 1929-32
Millions of dollars
1000
900
800
700
600
500
400
300
200
100
0
1929.1
1930.1
1931.1
1932.1
November 1930

Table 1. The suspensions and failures that ignited America's most important financial crises.					
Year of Panic	Level of Panic	Institution	Type of institution	Excessive investments in …	Reputation prior to failure
1819	**A**	Cincinnati branch of the Second Bank of the United States	Federal charter	Real estate	?excellent
		Bank of Kentucky	State bank	Real estate	?
		Banks in Western Pennsylvania	State banks	Real estate	?
		Banks in Cincinnati	State and private banks	Real estate	?
1837	**A**	J.L. & S. Josephs, Co. (New York)	Bill broker	Real estate, Cotton	Excellent
		Hermann, Briggs & Co. (New Orleans)	Cotton factor	Cotton	Excellent
1839	**B**	Bank of the United States of Pennsylvania (Philadelphia)	Investment bank	State government bonds	Mixed
		Morris Canal and Banking Company (New Jersey)	Investment bank	State government bonds	Mixed
1854	**B**	Ellis & Sturges, Goodman &Co., Smead and Co. (Cincinnati)	Private Banks	Railroads (?)	Excellent
		Ohio Savings Bank (Cincinnati)	Savings bank	?	?
		Kentucky Trust Company	Trust Company ?	?	?
1857	**A**	Ohio Life Insurance and Trust Company (Ohio and New York)	Trust Company	Railroads	Excellent
1873	**A**	Jay Cooke and Company (Philadelphia)	Investment Bank	Railroads (the Northern Pacific)	Excellent
		?First National Bank of Washington	National Bank	?	?
		?National Bank of Commonwealth	National Bank	?	?

Table 1. The suspensions and failures that ignited America's most important financial crises.					
Year of Panic	Level of Panic	Institution	Type of institution	Excessive investments in …	Reputation prior to failure
		of New York			
1884	**A**	Metropolitan National (New York)	National Bank	Railroad stocks	Excellent
		Marine National (New York)	National Bank	Loans to Grant and Ward	Mixed ?
		Grant & Ward (New York)	Broker	Railroads and other stocks	Mixed ?
1890	**B**	Baring Brothers (London)	Investment Bank	Foreign bonds	Excellent ?
		Charles M. Whitney (Boston)	Broker	Railroads	Excellent ?
		Decker Howell and Company (New York)	Broker	Railroads	Excellent
1893	**A**	Wisconsin Marine and Fire Insurance Company Bank (Milwaukee)	Private Bank	Mining	Excellent
		Herman Schaffner and Company (Chicago)	Private Bank	Real estate	Excellent
		United States Loan and Trust Company (Chicago)	Trust Company	?	?
		Columbia National Bank (Chicago)	National Bank	?	?
		Capital National Bank (Indianapolis)	National Bank	?	?
		Chemical National Bank (Chicago)	National Bank	?	?
1907	**A**	Knickerbocker Trust Company (New York)		Mining?	Excellent

Table 1. The suspensions and failures that ignited America's most important financial crises.

Year of Panic	Level of Panic	Institution	Type of institution	Excessive investments in …	Reputation prior to failure
		Mercantile National Bank (New York)	National Bank	Mining	?
1930	**A**	Bank of United States (New York)	State bank	Real estate	Mixed
		Caldwell and Company (Nashville)	Investment Bank	Real estate bonds, Industrial bonds, and Common stock	Excellent ?
2008	**A**	Lehman Brothers (New York)	Investment Bank	Real estate	Excellent
		Bear Stearns[a] (New York)	Investment Bank	Real estate	Excellent
		Fannie Mae and Freddie Mac (Washington DC)	Government sponsored mortgage insurers	Real estate	?
		Countrywide Financial[a] (Calabasas, CA)	Mortgage bank	Real estate	Excellent

[a]Sold after problems came to light.

Note: In column 4 financial institutions that were regulated by the federal government are unshaded. Institutions that were regulated at the state level are shown in a lighter shaded of gray. Institutions that were unregulated are shown in a darker shade of gray.

Sources: See the discussions of the individual institutions in the text.

Table 2. *Fortune Magazine*’s list of America’s most admired securities firms

Rank	March 2006	March 2007	March 2008
1	Merrill Lynch	Lehman Brothers Holdings	Goldman Sachs Group
2	Lehman Brothers Holdings	Bear Stearns	Morgan Stanley
3	Bear Stearns	Goldman Sachs Group	Lehman Brothers Holdings
4	Goldman Sachs Group	Legg Mason	Charles Schwab
5	Franklin Resources	Morgan Stanley	Legg Mason
6	A.G. Edwards	A.G. Edwards	Franklin Resources
7	Legg Mason	Merrill Lynch	AXA Financial
8	AXA Financial	Franklin Resources	Bear Stearns
9	Charles Schwab	AXA Financial	Merrill Lynch
10	Morgan Stanley	E*TRADE Financial	E*TRADE Financial

Source: America's most admired companies; 2006, 2007, 2008.

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Appendix: Identifying the panics

The dates of the panics examined here are shown in Table 1. The list was formed by looking at the classic financial and general economic histories of the United States as well as more recent studies. I included panics that drew the attention of a number of writers, about a half dozen depending on the period covered. I put extra weight on financial and economic history textbooks because the writers of these books have a broad, nuanced, and generally all-around higher understanding of American economic history.[17] I divided the panics into two categories. The A level panics are discussed in almost all financial and economic histories that I examined and left an obvious imprint on time series such as the money supply and GDP. The B level panics were regional affairs that are mentioned only occasionally in narrative accounts of U.S. financial history and left imprints on the major time series that are harder to see with the naked eye.

It was not until I was well along that I discovered the recent work of Andrew J. Jalil (2013). Jalil went back to the financial press and identified 7 major banking panics and 20 non-major panics during the period 1825-1929. My list of major panics during this period agrees with his except that Jalil identifies a major panic in 1833-34 that I do not include. And I include only 2 of his 20 non-major banking crises. The difference in coverage, however, may not be as significant as it first appears. I excluded the two Civil

[17] The sources consulted in construct the list included Abramovitz (1959), Bogart (1930), Bordo and Wheelock (2002), Calomiris and Gorton (1991), Coman (1910), Dewey (1931), Friedman and Schwartz (1963), Jalil (2013), Kemmerer (1910), Kindleberger (1989), Lebergott (1964), Miron (1986), Myers (1970), Sprague (1910), Sobel (1999), Studenski and Krooss (1963), Thorp, Thorp, and Mitchell (1926), Wicker (1996), and Wicker (2000).

War related crises since my focus was on financial crises triggered by the failure of financial institutions.[18] And Jalil includes a number of panics that were of relatively restricted geographic impact. These include a panic in December 1905 that according to Jalil affected only Chicago, a panic in 1908 in New York City, a panic in 1920 in Boston, a panic in 1920-21 in North Dakota, and panics in 1927 and 1929 in Florida. Had I included them, I would have considered them C level panics. Nevertheless it would be fruitful test of the generalizations in this paper to see whether they apply in these additional panics. Many of the panics that I excluded, and the reasons for excluding them, are summarized in the Appendix table below.

[18] I therefore also excluded panics in 1814 when the British captured Washington and in 1914 when war broke out in Europe triggering a stock market panic in the United States.

Appendix. Excluded panics.	
Year	Reason for Exclusion
1730	Colonial
1772	Colonial
1792	Mainly stock market??
1812	War of 1812
1825	Important in Europe; Seldom identified as a major U.S. panic
1833	Contraction due to monetary policy
1860	Civil War (South)
1861	Civil War (National)
1878	Confined mainly to building and loans??
1896	Seldom mentioned by financial historians
1901	Mainly a stock market panic
1914	World War I
1920-21	Contraction due to monetary policy
1937-38	Contraction due to monetary and fiscal policy