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OH, HOW THE MIGHTY HAVE FALLEN:
THE BANK FAILURES AND NEAR FAILURES THAT STARTED AMERICA'S GREATEST FINANCIAL PANICS

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This paper had its origin in a conversation with Albrecht Ritschl, who asked a number of searching questions about the history of U.S. banking panics shortly after the 2008 financial crisis, some of which I finally answer here. I presented a paper covering some of these issues at a conference at Indiana University in October 2014, celebrating the scholarship of Elmus Wicker. I thank the participants in that conference, especially my discussant Richard Sylla, for helpful comments. That paper was also presented at a meeting of the Chicago Friends of Economic History in May 2015. On that occasion, questions raised by Lou Cain were especially helpful. Comments received during and after my presentation at the 2020 meeting of the Economic History Association were valuable. Farley Grubb, Eric Hilt, Jeffrey R. Hummel, and my Rutgers colleagues Michael Bordo and Eugene White also provided insightful comments and encouragement. Mriga Bansal, Andrew Garib, and Jessica Schlossberg provided able research assistance. The remaining errors are mine. The views expressed herein are those of the author and do not necessarily reflect the views of the National Bureau of Economic Research.

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ABSTRACT

This is my presidential address to the Economic History Association that was delivered in September 2020. It examines the failures or in some cases near-failures, of financial institutions that started the 12 most severe peacetime financial panics in the United States, beginning with the Panic of 1819 and ending with the Panic of 2008. The following generalizations were true in most cases, although not in all. (1) Panics were triggered by a short series of failures or near-failures; (2) many of the failing institutions were what we would now call shadow banks; (3) typically, the source of trouble was an excessive investment in real estate; and (4) typically, they had outstanding reputations for trustworthiness, prudence, and financial acumen—before they failed. It appears that in these respects the Panic of 2008 was an old-school panic.

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> [a panic] occurs when a succession of unexpected failures has created in the mercantile, and sometimes also in the non-mercantile public a general distrust in each other's solvency; disposing every one not only to refuse fresh credit, except on very onerous terms, but to call in, if possible all credit which he has already given.
>
> —John Stuart Mill

> All of this has happened before, and it will all happen again.
>
> —Peter Pan

The Panic of 2008 took the public by surprise and unfolded in seemingly unprecedented ways. Since then, economic historians have fruitfully drawn attention to many parallels between the Panic of 2008 and earlier panics.[1] Yet despite this extensive literature, I believe there is still much to learn from a comparison of the Panic of 2008 with the panics that bedeviled the United States in the nineteenth and first one-third of the twentieth centuries. Here I examine 12 of the most important peacetime financial panics and try to answer some basic questions. How many failures did it take to start a panic, one or a series? What kind of banks were they, shadow banks or regulated commercial banks? Why did they get into trouble? Finally, why did these failures produce a violent change in the public's estimation of the soundness of the financial system? The number of cases is small even though I go deep into the nineteenth century. The information, moreover, is necessarily qualitative. Other investigators might well reach different conclusions about one or more of the episodes. Nevertheless, I believe, as I will try to show in the remainder of the paper, that there is sufficient evidence to make prima facie cases for four conclusions.

(1) Typically, panics were triggered by a short series of failures. The history of America's panics, in other words, confirms John Stuart Mill's conclusion noted in the epigraph (Mill 1878, p. 196). Indeed, Mill's words could pass for a description of the start of the Panic of 2008: "A succession of unexpected

[1] A very incomplete list includes Bordo and James (2010), Eichengreen (2015), Frydman, Hilt, and Zhou (2015), Gorton (2010, 2012), Gorton and Tallman (2018), Riddiough and Thompson (2012), Tooze (2018), and White (2016).

failures” creates “a general distrust in each other’s solvency.” Mill’s next sentence describes what happened in the banking sector:

> Deposits are withdrawn from banks; notes are returned on the issuers in exchange for specie; bankers raise their rate of discount, and withhold their customary advances; merchants refuse to renew mercantile bills.

(2) Many of the failing institutions, although by no means all, were what we would now call shadow banks. Although shadow banking in the United States is sometimes thought to be something new, it has been a source of trouble for a very long time.

(3) The banks that failed got into trouble by investing an excessive proportion of their assets in real estate. Listening to the siren song of real estate speculation is not something unique to the Panic of 2008; it has been a periodic source of trouble since the early days of the republic.

Finally, (4) the banks that failed or nearly failed and triggered financial panics typically had outstanding reputations for trustworthiness, prudence, and financial acumen—before they failed. This is why Mill writes of “unexpected failures.” It is when banks that we thought were sound go under that we change our estimation of the soundness of the financial system.

The article is organized into eight sections, including this introduction. The second section briefly reviews the treatment of marquee failures in the historical literature. The third describes the panics investigated in the paper and the sequences of failures that produced them. The fourth section shows that shadow banks are a long-standing problem. The fifth section shows that real estate was typically the investment that produced the key failures. The sixth section shows that the key failures were firms with sterling reputations. The seventh section examines some failures that did not spark panic. The conclusion summarizes the main findings.

MARQUEE FAILURES IN THE ACADEMIC LITERATURE

The idea that financial panics are triggered by dramatic failures has a long and distinguished pedigree. I have already quoted Mill's analysis from his *Principles of Political Economy*. Walter Bagehot provides a similar analysis in *Lombard Street*. He based his conclusions mainly on panics that occurred in Britain after Britain suspension of the gold standard from 1797 to 1821 necessitated by the Napoleonic Wars. He does not say explicitly why he excluded events during the suspension, but the suspension meant that worries about the Bank of England's gold reserve would not constrain the Bank's ability to respond to emergencies. In other words, during the suspension, the Bank of England was much closer to being a modern central bank—in the sense that it could create any amount of fiat money it chose—than it was in the decades that followed. That left Bagehot with panics prior to the suspension and a half-dozen panics after to consider before the publication of *Lombard Street* in 1873: the British panics of 1825, 1836, 1839, 1847, 1857, and 1866. His conclusion was straightforward:

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

In *A Monetary History* Friedman and Schwartz (1963, p. 56) tell us that the Panic of 1873 was

> set off by the failure of a number of banking houses. The most important house that failed was Jay Cooke and Company, which had become nationally famous through its role in pioneering the widespread public distribution of government bonds during the Civil War.

Friedman and Schwartz also famously argued that the failure of the Bank of United States in December 1930, combined with crops of bank failures in other parts of the country, undermined confidence in the banking system and produced a decline in the stock of money that turned a "garden variety" recession into a depression. In one of the most famous footnotes in economics (1963, fn. 9, pp. 309–10), they recounted the case that was made to the banking authorities in New York to save the Bank of United States by arranging a merger with a stronger bank. This footnote leaves most readers with the conclusion, although Friedman and Schwartz do not say so explicitly, that had help been forthcoming much future trouble would have been avoided.

Phillip Cagan (1965, p. 226), in summarizing the relationship between panics and business downturns, writes as follows.

> In their time sequence, panics have not been spontaneous but have been sparked by the failure of a few large financial companies, often involving fraud or mismanagement brought to light but hardly caused by the business downturn.

Hyman Minsky was an influential proponent of the view that financial crises are inevitable in capitalist economies. However, even Minsky, while firmly rejecting Friedman and Schwartz's emphasis on the stock of money, thought that the failure of the Federal Reserve to rescue the Bank of United States in 1930 was "a critical example of the Federal Reserve's failure in the great contraction" (1972, fn. 6, p. 40).

Charles P. Kindleberger (1989, fn. 46, pp. 155–56, 244), one of the leading American students of panics, describes the Bank of England's organization of a guarantee fund for Baring Brothers in 1890 as "the allaying of a possible Baring Brothers panic."

It is true that the more recent literature has at times stressed other determinants of panics. Nevertheless, much of this literature is consistent with an emphasis on famous failures. Clearly, the famous-failures story is consistent with theoretical models produced in recent decades that stress the sudden rush to the exit produced by a "sunspot." Diamond and Dybvig (1983) were the first to provide a formal model of a fragile banking system prone to runs, although the idea that a fractional reserve banking system is inherently fragile is, of course, much older. The Diamond-Dybvig model has been extended in several ways—for example by Holmström and Tirole (1998), Allen and Gale (1998), Diamond and Rajan (2001), and Ennis and Keister (2009)—and has become the workhorse of contemporary modeling of financial crises. An emphasis on the role of famous failures also fits well with the idea that financial market disruptions stem from the basic asymmetry of information between a bank and its depositors emphasized by Calomiris and Gorton (1991).

Of course, another tradition emphasizes the buildup of distortions in the financial system. Once these distortions reach a certain level, a crisis becomes inevitable, and the failures that occur as the crisis begins are symptoms rather than causes. In this view, panics are the result of asset price speculation that goes too far, caused perhaps by mistaken monetary or credit policy. Some examples from a list that could cover many pages are Schularick and Taylor (2012), or to take an older example, Mitchell (1941).

Analogies

Eichengreen (2012) has explored the powerful role that historical analogies play in economic thinking and policymaking, including, importantly, the analogy between the financial crisis in the 1930s and the financial crisis in 2008. Additionally, I believe a variety of non-historical analogies also play an important role in our attempts to understand financial crises and panics. Indeed, the word panic itself is an analogy. The word comes, according to many accounts, from the name of the Greek god Pan whose shouts would cause humans to flee in unreasoning fear. Or, to take a more familiar case, economic theorists who see distortions growing greater and greater until a crisis becomes inevitable often liken them to bubbles that grow bigger and bigger until they burst. Someone might use a pin to prick the bubble, but even without the pinprick, bursting is inevitable.

An analogy that I find more persuasive is that financial panics are like the explosion of a bomb. The fuel for the bomb corresponds to the distortions in the financial system, the speculative excesses, for example, that have weakened the system. The more fuel, the bigger the explosion. However, for the bomb to explode, you also need a trigger, and that suggests that deactivating the trigger can prevent the explosion. Bernanke's (2012) distinction between "triggers and vulnerabilities" is similar.

An analogy drawn from Bayesian statistics, while less exciting, is also helpful in explaining why a sequence of failures might or might not set off a panic. We can start by thinking about how rational individuals revise their subjective estimates of the probability of system-wide financial collapse. In good times, those estimates are close to zero. However, as bad news accumulates—the stock market swoons, industrial production declines, prominent financial institutions fail—people raise their estimates of the probability of general insolvency or illiquidity. (In the Bayesian jargon, their priors are updated.) At some point, these subjective probabilities of collapse rise so high that people take action: they sell risky assets and buy safe ones, they stop extending credit, they try to turn bank deposits into cash, and so on. In other words, they panic.

The Media

The way in which a failure, or near failure, was framed by the media was crucial. Since there were many firms and many players in America's financial markets, few investors were familiar with the reputation of a particular bank, let alone the details of its balance sheet, when it failed. What was important is what newspapers and other media told the public after the fact. Did they tell their readers that a great house had failed, or did they tell their readers that the long-expected failure of a dodgy firm had finally happened? It is the former story, of course, that could demoralize financial markets.

To be sure, press reports could be influenced by a variety of concerns. Sometimes, there may have been an incentive to claim that a firm that failed was highly regarded in order to stress the extent of the calamity: *Oh, how the mighty have fallen*. Failures were, moreover, funerals. There might have been an understandable reluctance, especially if it was a local firm, to say bad things about the dead. On the other hand, at times, there may have been a desire to tell readers "we told you so," or at least "we knew it all along." Despite these possible biases, the observations of many observers and historians with frontline experience writing about panics that occurred in very different historical periods suggest that a great reputation before the failure was more than a convenient literary trope.

Because the framing of the failure by the press was key, panic could leap across regional and even national boundaries. Investors in San Francisco might not have money at risk in New York or

London, but reports about what was happening in New York or London could influence opinions in San Francisco about the safety of the entire financial system.

Definitions

Before turning to the historical record, it is necessary to define three terms: panic, shadow bank, and failure. A panic is, as Mill (1878, p, 196) says in the epigraph, ”a general distrust in each other’s solvency,” leading ”every one to refuse fresh credit, except on very onerous terms, but to call in, if possible all credit which he has already given.” In *Lombard Street*, Bagehot (1924 [1873], p. 118) defined a panic simply as “a sudden demand for cash.” Panic, in other words, is an abnormal state of financial markets in which almost everyone is trying to protect themselves by turning their assets into cash.

Although there are a few debatable cases, the term shadow bank is reasonably clear. First, a shadow bank is a bank: a financial intermediary that relies heavily on short-term liabilities for funding. However, it is a bank that is not subject to close supervision by a government authority. Often shadow banks were private institutions not subject to any form of regulation. In other cases, however, they were nominally subject to regulation but were able to escape severe restrictions. It is useful, I have found, to put some banks into an intermediate category: shadowy banks, to borrow a term from Michener and Richardson (2013). Another aspect of shadow banks, one that undoubtedly contributed to the ready acceptance of the term, is that they are not well known to the public, visible but in the shadows.

This definition corresponds to current usage. Lehman Brothers is referred to as a shadow bank. It fulfills both of my conditions. It relied heavily on short-term repo loans, and although regulated by the Securities and Exchange Commission, it found it easy to evade the constraints imposed by the Commission. As an operational matter, I classify the First and Second Banks of the United States, national banks, and the Federal Reserve as regulated banks rather than shadow banks. Unregulated or lightly regulated stock and bill brokers, investment banks, and the like are classified as shadow banks. Lightly regulated trust companies are the “shadowy banks.”

In the simplest case, failure means that a bank lacked the assets to pay its creditors, so it became bankrupt. In a few cases, however, cases that I refer to as near-failures, events played out differently. For example, there was a rescue organized by the government, or a bank that closed its doors because of a temporary lack of liquidity, and seemed to be heading toward bankruptcy, was able to surmount its difficulties and reopen. Both failures and near-failures had the potential to demoralize financial markets.

The sections that follow focus on the general patterns common to most of the panics.

"A SUCCESSION OF UNEXPECTED FAILURES"

Table 1 lists the 12 panics discussed in the paper. The list was constructed from the classic financial and economic histories of the United States, as well as more recent empirical studies. I included panics that drew the attention of a half dozen or more writers, depending on the period covered. It includes, for example, all the panics discussed in Sprague's (1910) *History of Crises under the National Banking System*. I put significant weight on textbooks about American economic history because, as is well known, the authors of those books possess an unusually broad yet nuanced understanding of American economic history.

The most notable events referred to occasionally as panics that I excluded, and the reasons for doing so, are summarized in Table 2. I excluded panics caused by the outbreak of wars, such as the Panic of 1914, panics that appeared to be confined to the stock market, such as the Rich Man's Panic of 1903, and recessions sometimes referred to as panics produced by contractionary monetary policies, such as the severe contraction of 1920–1921. From the Great Depression, I included only what Friedman and Schwartz (1963, pp. 308–32) described as the "First Banking Crisis," which they dated as beginning in October 1930. Friedman and Schwartz also identify a Second Banking Crisis beginning in March 1931, a major deterioration of financial conditions associated with Britain's departure from the gold standard in September 1931, and a Final Banking Crisis beginning in January 1933. Wicker (1996, ch. 3) provides somewhat different starting dates for the First and Second Banking Crises and refers explicitly to the developments in the American banking system associated with Britain's departure from gold as a banking crisis. However, I excluded panics after the First, partly because they seem to be surges of failures within an ongoing process and partly because I wanted to give more weight in my analysis to the relatively neglected earlier panics.[2] In addition, much of the quantitative data, such as the deposits in the postal savings system, suggest a single break at the end of 1930.

Recently, Jalil (2015) 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 1833–1834 that I exclude. I include, moreover, only two of his 20 non-major banking crises. The difference in coverage, however, is not as great as first appears. As indicated above, I excluded several war-related crises and several severe contractions precipitated by a tight monetary policy. The latter consideration explains my exclusion of 1833–1834.[3] Moreover, Jalil includes a number of panics of 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 1920–1921 in North Dakota, and panics in 1927 and 1929 in Florida. It would be a fruitful test of this paper's claims, especially that real estate was typically the source of trouble, and that it was the failure of firms thought to be trustworthy and knowledgeable that triggered panics, to see if they hold in these additional cases.

The first column of Table 1 lists the failures that observers at the time and financial historians have identified as the key failures. To be sure, which banks to include is a matter of judgment. To save space, I omitted failures mentioned infrequently. However, it is likely that most financial historians would find reasons to object to one or more of my choices, whether inclusions or exclusions.

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[2] Nevertheless, a preliminary look suggests that the Second Banking Crisis fits the mold. This crisis was centered in Chicago and inaugurated by the failure of the Foreman Group of Banks. Foreman was a Savings and Trust Company, not a commercial bank, and was heavily invested in suburban real estate (Postel-Vinay 2016).

[3] On 1833–1834, see Meerman (1963) and Temin (1968).

This column shows that in most cases, the failure that immediately triggered the panic was preceded by one or more failures that began the process of undermining confidence in the financial system. Typically, the series of failures was short; indeed, in some cases, the term cluster would be more accurate. The exception is 1857. Some sources mention previous failures, but most mention only the failure of the Ohio Life Insurance and Trust Company. In this case, the stage may have been set by the somewhat similar but milder panic in 1854.

A succession makes sense. A single failure can be ignored; accidents happen. A succession of failures, however, suggests that there is something wrong with the system as a whole: Time to take cover by turning risky assets into cash. The meaning of any given failure depended, moreover, on what had happened previously. Some failures merely confirmed what was known, while others revealed that trouble had spread from one section of the financial system to another or one section of the country to another. In 1837, for example, the failure of Hermann, Briggs & Co. in New Orleans was followed by the failure of J. L. & S. Joseph & Co. in New York. In 1873 the failure of Kenyon, Cox, and Company in New York was followed by the failure of Jay Cooke and Company in Philadelphia. In 1930 the failure of Caldwell and Company in Tennessee was followed by the failure of the Bank of United States in New York.

IT'S ALMOST ALWAYS THE SHADOW (OR SHADOWY) BANKS[4]

Typically, as shown in the second column of Table 1, many of the key failures were failures of what we would now call shadow banks. The marquee failure in 1837, J. L. & S. Joseph & Co., was an investment bank; in 1854, Ellis, Sturges, Goodman & Co., a private bank; in 1857, the Ohio Life Insurance and Trust Company best described as an investment bank; in 1873 Jay Cooke and Company, another investment bank; in 1893 the Wisconsin Marine and Fire Insurance a private bank; and so it went.

[4] I developed this point in more detail in an earlier paper (Rockoff 2018).

There are, to be sure, some ambiguous cases. Some prominent economic historians, Frydman, Hilt, and Zhou (2015), have identified the Knickerbocker Trust, which ran into trouble in 1907 as a shadow bank. On the other hand, Friedman and Schwartz (1963, p. 149) viewed the trust companies as similar to state-chartered and national banks in New York but with "lower reserves" and "looser supervision." Therefore, I classified the Knickerbocker Trust as a shadowy bank. In the second column of Table 1, I have shaded the shadow banks with a dark shade of gray and the shadowy banks with a lighter shade. Evidently, shadow banks or shadowy banks were elements in the succession of failures that triggered every panic except the panic of 1819.

REAL ESTATE WAS OFTEN THE SOURCE OF TROUBLE

The lure of extraordinary profits in real estate often proved the downfall of the financial institutions that failed and triggered financial panics. You can see this in Column (3) of Table 1, which lists the problem investment as best I can determine it.

Real estate was the problem, as we all remember, in 2008, but it was also a major problem in 1819 when western and southern branches of the Second Bank of the United States ran into trouble from investments that were ultimately secured by farm mortgages. Although the details were different, the real estate problems experienced by the Second Bank of the United States in 1819 are similar to the problems encountered by the Federal National Mortgage Association and the Federal Home Loan Mortgage Association almost two centuries later. The contractionary monetary policy adopted by the Second Bank in response, however, probably had a greater impact on the economy than the retrenchments at the Federal Mortgage Associations.

In 1837 J. L. & S. Joseph, Co. found itself underwater in part because of investments in the American Land Company, which had invested heavily in agricultural land, especially cotton-growing land, and in the New Brighton Association, which had planned a luxury housing development on Staten Island.

Excessive outlays for building canals and railroads were the source of difficulties for many of the key failures in the remainder of the nineteenth century. Canal and railroad building was essentially an investment in real estate at one remove. These projects could prosper only if the land around them was developed, and in many cases, the canals and railroads received land grants that put them directly into the business of selling real estate. Money for building canals was part of the problem for the Bank of United States of Pennsylvania, the marquee failure in 1839. The panics in 1854, 1857, and 1873 were triggered by the failure of firms that had invested heavily in building railroads. The Northern Pacific Railroad, the problem for Jay Cooke and Company in 1873, had received land grants totaling, it is said, nearly 40 million acres—an area nearly the size of the state of Florida. One can also include the near failure of Baring Brothers in 1890, an event that produced a second-tier panic in the United States. The firm had invested heavily in railroads and utilities in Argentina. Fortunately, a rescue package organized by the Bank of England prevented the near failure of the Barings from having a much larger impact (White 2016). In 1930, one of the problems for the Bank of United States was real estate as it was for Lehman Brothers in 2008.

While real estate was frequently the problem, it was not always so. In 1893 the Wisconsin Marine and Fire Insurance Company Bank was invested heavily in a scheme to monopolize shipping, mostly of iron ore, on the Great Lakes. In 1907 the Knickerbocker Trust was hurt by rumors that it was involved in speculation in copper. The Ponzi schemes, moreover, were based on idiosyncratic stories. Nevertheless, the frequency with which real estate shows up in our list of trouble-making investments is striking. It should not be surprising, however. The western advance of agriculture in the nineteenth century and then urbanization and suburbanization in the twentieth have been major themes of U.S. economic development. The expected returns from investments in real estate, moreover, are highly uncertain, fueling dreams of riches in those who focus on the most profitable outcomes.

Warnings that banks should not invest too much in real estate have a long history. In the *Wealth of Nations*, Adam Smith warned that long-term investments, including investments in improving farmland, yield returns only after a period of many years, “a period far too distant to suit the conveniency of a bank” (Smith 1981 [1776], II.ii.64). Smith’s warning was based, perhaps, on his experience with the Panic of 1772 in Britain (Rockoff 2011). Nevertheless, history shows that bankers cannot always resist the siren song of real estate speculation.

THEY WERE “GREAT FIRMS WHICH EVERYBODY TRUSTED”

Typically, the marquee failures had outstanding reputations for prudence and financial acumen—that is, until they failed. This makes sense. The failure of a firm with a questionable reputation would not produce a loss of confidence in the system as a whole. After all, if I was avoiding this firm because the experts said it was dodgy, there is little reason for me to question the experts and change my investments after it failed. On the other hand, if a firm that the experts said was trustworthy and smart turned out to have been neither, then how I can trust the experts; how can I trust any firm? Clearly, the prudent course is to move my savings into safer assets, government bonds or cash, until I can figure out the best place to invest for the long term.

Again, the evidence is necessarily qualitative. Column (4) of Table 1 summarizes what I have learned from reading materials written at the time of the crisis, such as newspaper articles, from accounts written subsequently based on firsthand experience, and from the subsequent academic literature. I have added some quotations to give the reader a sense of the sort of observations that I am aggregating. It appears that what mattered for the morale of financial markets was the long-term reputation of a bank. It might be known that a bank was having problems, perhaps because of bad decisions or simply bad luck, but if the bank was one with a long-established reputation for prudence and acumen, its failure could still demoralize financial markets. My aggregation cannot have the authority of a modern scientific opinion poll. However, I believe the evidence is sufficient to make a strong *prima facie* case that a good long-term reputation before the fall was an important characteristic of the failures and near-failures that triggered the panics.

The Second Bank of the United States, the source of trouble in 1819, was established after the lack of a central bank during the War of 1812 had created difficulties. It then received some kudos for reestablishing, to an extent, specie payments. It was, moreover, the second incarnation of the brainchild of Alexander Hamilton, who had a reputation in some circles as a financial mastermind even before the blockbuster musical. Both of the sparks for the Panic of 1837, Hermann, Briggs & Co. in New Orleans and J. L. & S. Joseph & Co. in New York, were well-regarded firms. The latter was the representative of the Rothschilds in New York, obviously a marker of honor in financial circles. The marquee failure in 1839 was the Second Bank of the United States of Pennsylvania. The President was Nicholas Biddle, who had lost the Bank War with Andrew Jackson. Jackson was still immensely popular with the public, but Biddle was highly regarded in financial circles.

The marquee failure in 1857 was the Ohio Life Insurance and Trust Company. Hugh McCulloch, a prominent Midwestern banker at the time the Ohio Life was operating, who served as the first Comptroller of the Currency and as Secretary of the Treasury under three presidents, later wrote (1888, p. 132) that "It [the failure of Ohio Life] was a bolt from a cloudless sky." He added, moreover, a glowing tribute to the prudence exercised by Ohio Life before its fall:

> 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, pp. 132–33).

The marquee failure in 1873 was Jay Cooke and Company. Cooke had an outstanding reputation. The Lincoln Administration had chosen Cooke to market the North's bonds during the Civil War, and he had done an outstanding job. Even in the South, there was grudging admiration for what he had accomplished. In his history of the post-Civil War business cycle, Fels (1959, p. 99) described the role of Cooke's failure this way:

> The event that made a banking panic inevitable was the failure of Jay Cooke & Co. Cooke, as the man who had financed the Civil War, enjoyed an extraordinary reputation. His downfall did far more damage than the failure of a financial pirate could have.

A cluster of failures triggered the mild Panic of 1884. The first, the brokerage of Grant and Ward, although highly thought of in some circles before it failed—Ward was referred to by the press as "the young Napoleon of Wall Street," and Grant was none other than General and President Ulysses S. Grant—was quickly revealed to be a Ponzi scheme. The three national banks that subsequently found themselves in difficulties had solid reputations. John Sherman, a major nineteenth-century legislator and political leader, judged the Marine National to be "an institution that had been in high credit and standing," and the Metropolitan National Bank "one of the oldest, largest, and in former times considered among the best, of all the banks in New York" (Sherman 1895, p. 879).

O.M.W. Sprague (1910, p. 124) referred to the mild Panic of 1890 as a "financial stringency." Although several houses failed in New York, Sprague thought that there would have been no panic in the United States if Baring Brothers, the famous London investment bank, had not come close to failing. Fortunately, as noted above, the Bank of England organized a rescue that helped to maintain confidence and limit the damage (White 2016). Henry Clews, the author of a classic history of Wall Street, suggested the connection between the reputation of Barings and confidence in the financial system:

> I trace the causes of this year's state of affairs as far back as the failure in London of Baring Bros. & Co., in 1890, for that unexpected event gave a shock to confidence, and curtailed credits all over the world. Indeed, the long career and prestige of that celebrated and honorable house gave it a credit in both hemispheres that was second only to that of the Bank of England, and its collapse wiped out of existence the immense amount of credit and banking facilities that it had enjoyed so long (Clews 1908, p. 900).

The undermining of confidence in 1890 may have set the stage for the far more severe Panic of 1893. Sprague (1910, ch. 4) describes the panic unfolding in three stages, the last beginning in July 1893.

The key failure was the Wisconsin Marine and Fire Insurance Bank. This bank was the descendant of a bank founded in 1839 by George Smith, a young Scottish immigrant. Smith's bank had earned an enviable reputation in the Midwest before the Civil War, and it only grew after the war.[5] Frank Cyril James's *Growth of Chicago Banks,* the standard history of banking in Chicago, had this to say about the failure:

> Saddest of all [the failures in 1893], the Wisconsin Marine and Fire Insurance Bank, inheritor of the glorious mantle of George Smith, went into the hands of a receiver. It was [quoting the *Chicago Tribune*] "an institution which everyone thought was rock-rooted and solid as the eternal hills." (James 1938, p. 593).

The run on the Knickerbocker Trust toward the end of October 1907 was the final spark for the Panic of 1907. The reputation of the Knickerbocker was excellent prior to a rumor that its president, Charles T. Barney, was involved in speculation in the copper market (Bruner and Carr 2007, ch. 9, passim). Many of the accounts of the run on the Knickerbocker in the newspapers drew attention to the Knickerbocker's magnificent new marble-clad headquarters designed by the famous architect Stanford White and the bank's "up-town clientage," as Noyes (1909, p. 370) put it in his financial history of the United States written shortly after the run. On November 15, the *Honolulu Advertiser* (p. 4) put it plainly: "Possessing one of the fairest exteriors of all the financial institutions of New York, the Knickerbocker Trust Company was among the rottenest at the core." It is hard to escape the conclusion that the papers were telling their readers that the proverbial mighty had fallen.

Two failures are usually cited as the sparks that started the banking panic of 1930. Wicker (1966) stressed the failure of Caldwell and Company, an investment bank headquartered in Nashville, Tennessee. Friedman and Schwartz (1963, pp. 309–11), on the other hand, stressed the failure of the Bank of United States in New York City. Both banks had sterling long-term reputations before they failed. McFerrin

[5] On George Smith, see Farwell (1905) and Smith (1965).

(1969, pp. 117–19), the historian of Caldwell and Company, claimed that by 1930 the bank's prestige was such that it was known in financial circles as the "Morgan of the South." Werner (2009 [1933], p. 7) in his impassioned, but frequently cited history of the downfall of the Bank of United States, tells us that the bank had prospered under its first president, Joseph S. Marcus, because of his "reputation for shrewdness and honesty." Marcus' death in 1927 set in motion the events that led to the failure of the bank in 1930.

It became widely recognized during 2007 that the meltdown in the market for subprime mortgages posed substantial risks for financial markets. Several failures of firms heavily invested in subprime mortgages drove the point home. Therefore, it was not a complete surprise when JPMorgan Chase, with help and encouragement from the Federal Reserve, agreed to buy Bear Stearns in March 2008. The stock of Lehman Brothers, the failure that would be the final spark, had been falling for some months before it filed for bankruptcy on 15 September 2008; evidence that the market had some concerns about the health of the bank. However, to find a time when the reputations of Bear Stearns and Lehman Brothers were unblemished, it is only necessary to dial the clock back to 2007. In *Fortune Magazine's* annual list of "America's Most Admired Companies" based on surveys of corporate executives and Wall Street analysts and published in March, Lehman Brothers Holdings ranked first among securities firms ahead of Goldman Sachs, Morgan Stanley, Merrill Lynch, and others. Which firm was number two? Bear Stearns! The two had moved up from a year earlier when they ranked second and third behind Merrill Lynch. True, by March 2008, the two had fallen a bit. Lehman Brothers now ranked third among securities firms, and Bear Stearns, which was only two months away from its government-aided acquisition by JPMorgan, ranked eighth.

While their current troubles were known, the near failure of Bear Stearns and the failure of Lehman Brothers, nevertheless, were a shock for financial markets because of their long-term reputations. When Lehman Brothers failed, the *New York Times* (15 September 2008, c2) reported the following about opinion on Wall Street:

> While people were stunned by the near collapse of Bear Stearns in March, they were flabbergasted that Lehman, a respected firm with a 158-year history, could be brought to its knees.

In short, the events in the fall of 2008 follow the mold: the mighty had fallen, igniting a panic.[6]

Another factor that aggravated financial panics that was present in several cases, although not typical, was that the key failure revealed that hoped-for support from private or public sources would not be forthcoming. This was true in 1837 when a plan pushed by the Bank of the United States of Pennsylvania to rescue J. L. and S. Joseph fell through. It was true in 1907 when hopes that J.P. Morgan would rescue the Knickerbocker Trust came to naught (Moen and Tallman 2000; Rodgers and Payne 2014). It was true in 1930 when a hoped-for rescue of the Bank of United States by the Federal Reserve failed to materialize. And it was true in 2008 when the Federal Reserve and the Treasury broke with the policy they had established and decided not to bail out Lehman Brothers.

FAILURES THAT DID NOT TRIGGER PANICS

Is the opposite true? If, in the wake of a failure, the press tells us that the experts had distrusted the firm all along, do markets then shrug off the failure? Space does not permit a full treatment. However, we can at least notice that there were failures of firms with compromised reputations that triggered only mild panics, or in some cases none at all.

The failure of Grant and Ward was the first in the sequence that sparked the relatively mild Panic of 1884. The panic may have been mild in part because the papers quickly explained that the firm had made dubious claims that levelheaded investors had avoided. Similarly, the failure of Charles Ponzi in 1920, although it sparked runs on some Trust companies in Boston thought to be closely associated with Ponzi, also failed to precipitate a large-scale financial panic. The papers explained that Ponzi's investors

[6] Table 1 ends with the failure of Lehman Brothers. There were, however, several important failures and near-failures of respected firms that followed soon after and that undoubtedly aggravated the panic: American International Group, Washington Mutual, and Citigroup.

had been fooled by promises of returns that were too good to be true. Obviously, sensible investors did not have to worry about their savings.

The failure of Drexel, Burnham, and Lambert in February 1990 did not precipitate a panic because a failure had long been thought a possibility. It was, after all, a firm known to be following policies established by Michael Milken, the "Junk Bond King." Drexel, Burnham, and Lambert was allowed to fail, but when Long-term Capital Management, a hedge fund, got into trouble in 1998, a bailout supervised by the Federal Reserve Bank of New York was arranged. We do not know what would have happened if it had been allowed to fail. However, one clear difference between the two firms was that while there were always doubts about investing in junk bonds, Long-Term Capital Management had a reputation for astute investing. After all, two of the principals, Myron Sholes and Robert C. Merton, had shared the Nobel Prize in economics in 1997 for their work in finance.

The arrest of Bernard Madoff on 11 December 2008 and the revelation that he had been running a massive Ponzi scheme also failed to aggravate the panic. Just two days after Madoff's arrest, the *New York Times* (13 December 2008, p. A1) provided a front-page story about Madoff entitled "Look Back at Wall St. Wizard Finds Magic Had Its Skeptics." The *Times* told its readers that there had been warnings for years about Madoff, that he had been investigated by the Securities and Exchange Commission (although cleared), and that while the rate of return he promised, 10 percent, was not as outrageous as the rate of return promised in earlier Ponzi schemes, it was unnaturally constant from year to year. The takeaway would have been that while some unfortunate people had been duped, cautious investors had little to fear.

CONCLUSIONS

The role that we assign to marquee failures depends on the analogy that informs our understanding of panics. Some students of panics maintain that once distortions, say excessive amounts of leverage, have reached a certain level, the financial system is bound to crash. Inevitably, a stone will roll down the hill and start the avalanche. Finding and studying the stone that started it all will contribute little to our ability to prevent future avalanches. However, the analogy that seems to me to fit the historical experience best is a bomb, perhaps even an atomic bomb. The amount of fuel in the bomb, which we might compare to the distortions in the financial system, will determine the size of the explosion, but the trigger must be pulled. A wise monetary authority can prevent the explosion by disarming the trigger. Think of James Bond disarming the atomic bomb planted by Goldfinger in Fort Knox. Assuming that the bomb analogy is best, it behooves us to know something about the failures that, typically, have triggered financial panics.

Here I have looked at 12 U.S. financial panics, starting with the Panic of 1819 and continuing through the Panic of 2008. I have excluded some episodes that are sometimes labeled panics because they were regional panics or panics confined mainly to the stock and bond markets, or panics triggered by wars. Undoubtedly, some financial historians would object to some of my choices. Nevertheless, I believe that my list represents the consensus. The resulting set of cases is, to be sure, rather small by today's standards for economic research. Nevertheless, several conclusions appear to be robust.

First, as noted long ago by John Stuart Mill, it normally takes a sequence of failures to trigger a financial panic. One failure can be dismissed as an outlier, but a series of failures may convince people that the financial system is crumbling. Second, many of these failures were of institutions that we would now call shadow banks. As shown in Column (2) of Table 1, shadow banks played a role in starting every financial panic after the Panic of 1819. Our third finding is that real estate often proved the downfall of the marquee failures. This was true, as we all remember, of the failures in 2008, but it was also true in the panics of 1819, 1837, 1854, 1857, 1873, 1890, 1893, and 1930.

Our fourth finding is that in most cases, the marquee failures had reputations for trustworthiness, prudence, and financial acumen before they were found wanting. It is not hard to understand why this was important. If the experts were telling the public before the failure that this was a dodgy bank, then its failure would have strengthened faith in the experts and the institutions they touted. It is only when a well-regarded institution failed that the public lost faith in expert opinion and fled to safety. What mattered was the long-term reputation. Questions may have been raised about the recent performance of a financial institution, but if it's long-term reputation was outstanding, its failure could still demoralize financial markets. Perhaps, one might think, other financial institutions were experiencing difficulties, even other firms with sterling reputations. Much of the public's reaction depended on what the press reported after the fact. Few people will have paid attention to what the experts were saying about a particular institution before it failed. It is in the immediate aftermath of the failure that the public at large learns that a particular institution was long regarded as strong or weak before its fall.

The impact of a given failure, moreover, was path-dependent. Was this just another failure in a sector of the financial system or a region of the country already known to have problems, or was it a failure in a sector or region that had so far been free of failures? In the former cases, the failure merely reinforced what investors already knew. In the latter, the failure meant the disease had spread: the health of the entire system might be compromised. A failure might be important, moreover, for what it revealed about the willingness of private or public institutions to come to the aid of the financial system. This was a factor in 2008 when Lehman Brothers failed, but it was also a factor in 1837, 1907, and 1930.

Overall, our analysis of the impact of the marquee failures provides further evidence for Shiller's (2019, pp. 114–19) argument that a ”financial panic narrative” can go viral and have a profound impact on the economy. In our cases, the generally held narrative changed abruptly from "I am OK, the financial system is sound" to "I am in danger, the financial system is collapsing" because of failures of highly regarded financial institutions. These conclusions also suggest that identifying "systemically important" institutions and deciding what to do about them when they get in trouble will not be easy. The monetary authorities may be confronted with failures that do not meet quantifiable standards of systemic importance, such as size or connectedness, but which may be important because of the reputation of the firm and how its failure would be interpreted in the light of previous failures.

Given the high frequency of panics throughout the nineteenth century and the first one-third of the twentieth, why did we go so long without a crisis after the banking panics of the early 1930s? One factor that undoubtedly played a role was the increased regulation of banking that came with the New Deal. Deposit insurance, in particular, mitigated the tendency of people to convert bank deposits into cash after troubling failures. But this survey points to another important factor: the presence after WWII of a central bank that was both able (in part because of the abandonment of the gold standard) and willing (in part because it had learned the costs of inaction during the Great Depression) to act as lender of last resort.

The United States had two central banks in the nineteenth century, and while they were operating, the United States was able, for the most part, to avoid financial crises. The exceptions were the Panic of 1819 and perhaps the financial stringency of 1833–1834. 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 combined with opposition from state-chartered banks and the North–South divide (Southerners did not want a central bank headquartered in a Northern city) undermined support for the First and Second Banks. The First and Second Banks, moreover, had to operate under the constraints of the gold standard. After the failure to re-charter the Second Bank, a long period without a central bank ensued marked by frequent banking panics.

The creation of the Federal Reserve in 1913 provided an institution with the power to act as lender of last resort. However, for several reasons—the explanation is still a matter of debate—it did not do so during the early1930s. The story was different, however, after WWII. There were events in the postwar period—for example, the credit crunch of 1966, and 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 by the monetary authorities. The Federal Reserve almost pulled off another save in 2008, but the decision to let Lehman Brothers go, although perhaps required by legal constraints, triggered an old-school financial panic.

What will the next failure that starts a panic be like? If history is any guide, it will be the last in a sequence of failures that have raised widespread fears of a financial collapse. It will be a shadow bank that got into trouble because of excessive investments in real estate, and it will have an outstanding long-term reputation for trustworthiness, prudence, and financial acumen.

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TABLE 1
THE FAILURES AND NEAR FAILURES THAT IGNITED AMERICA'S MOST IMPORTANT FINANCIAL CRISES

Name and Location (1)	Type of Institution (2)	Source of the Trouble (3)	Long-Term Reputation Prior to Failure or Near Failure (4)
		1819	
Western and Southern Branches of the Second Bank of the United States	Central bank chartered by the federal government	Real estate and insider loans for purchase of the bank's stock	Respected
		1837	
Hermann, Briggs & Co. (New Orleans)	Cotton factor	Cotton	Respected
J. L. & S. Joseph & Co. (New York)	Bill broker and investment bank	Loans to Hermann Briggs and real estate	Respected
		1839	
Morris Canal and Banking Company (New Jersey)	Investment bank and construction company	Canals	Mixed
The United States Bank of Pennsylvania (Philadelphia)	Commercial Bank and Investment bank	Cotton, canals	Respected in the financial community
		1854	
Kentucky Trust Company	Trust company	NA	NA
Ohio Savings Bank (Cincinnati)	Savings bank	NA	NA
Smead and Co. (Cincinnati)	Private bank	NA	Respected, "Well thought of"

Ellis, Sturges, Goodman & Co. (Cincinnati & New York)	Private bank	Railroads	Respected, "Well thought of"
		1857	
Ohio Life Insurance and Trust Company (Ohio and New York)	Trust company	Railroads	Respected, "enjoyed the highest credit"
		1873	
New York Warehouse & Security Co.	Investment bank	Railroads	NA
Kenyon, Cox, and Company (New York)	Brokerage	Railroads	Mixed
Jay Cooke and Company (Philadelphia)	Investment bank	Northern Pacific Railroad	Respected, "one of the first houses in the country"
		1884	
Grant & Ward (New York)	Broker	Ponzi scheme	Respected, "Ward went up so high that when he came down he landed in Sing, Sing prison"
Marine National (New York)	National bank	Connection to Grant and Ward	Respected, "in high credit and standing"
Second National Bank	National bank	Managerial misconduct	Respected
Metropolitan National (New York)	National bank	Country bank deposits	Respected, "considered among the best, of all the banks in New York"
		1890	
Charles M. Whitney (New York)	Broker	Railroads, coal and iron	Respected, "One of the richest firms about Wall Street"

Decker Howell and Company (New York)	Broker	Railroads	Respected, "one of the most prominent"
Baring Brothers (London)	Investment bank	Railroads and utilities in Argentina	Respected, "Great and historic"
		1893	
Chemical National Bank (Chicago)	National bank	Loans to insiders	Unsatisfactory
Capital National Bank (Indianapolis)	National bank	Close connection to Chemical National	Unsatisfactory
Columbia National Bank (Chicago)	National bank	Investments in country banks	Unsatisfactory, "methods which were disapproved by conservative bankers"
United States Loan and Trust Company (Chicago)	Trust company	Investments in country banks	Unsatisfactory
Herman Schaffner and Company (Chicago)	Private bank	Street railways and real estate	Respected, "always stood well in the regard of New-Yorkers"
Wisconsin Marine and Fire Insurance Company Bank (Milwaukee)	Private bank	Great Lakes shipping	Respected, "a Gibraltar of finance"
		1907	
Mercantile National Bank (New York)	National bank	Copper mining and speculation in copper	Unsatisfactory
Knickerbocker Trust Company (New York)	Trust company	Rumors of speculation in copper	Respected
		1930	

Caldwell and Company (Nashville)	Investment bank	Stocks of financial institutions, real estate, and other investments	Respected, "Morgan of the South"
Bank of United States (New York City)	State bank	Real estate	Respected, a "reputation for shrewdness and honesty"
	2008		
Countrywide Financial (Calabasas, CA)	Mortgage bank	Real estate	Unsatisfactory
Federal National Mortgage Association and Federal Home Loan Mortgage Association (Washington DC)	Government-sponsored enterprises	Real estate	Respected
Bear Stearns	Investment bank	Real estate	Respected
Lehman Brothers	Investment bank	Real estate	Respected, "a respected firm with a 158-year history"

Notes: The banks listed in Column (1) did not always fail in the sense that they became legal bankrupts. In some cases, rescues were arranged, or the bank was able to overcome a temporary liquidity problem. In Column (2), state-chartered commercial banks and all federally chartered banks are unshaded. "Shadowy banks" are shown in a lighter shaded of gray; "shadow banks" in a darker shade of gray. Column (3) shows the ultimate source of the trouble as best as I can determine it. In Column (4), reputation refers to the way the institution was the long-term reputation of the bank was described in the wake of its failure. In some cases, concerns had been raised before the bank failed. Terms without quotation marks summarize my reading of the literature. Terms in quotation marks are quotes from the press, memoirs, or the academic literature.

Sources: A number of sources were consulted including the following: Abramovitz (1959), Bogart (1930), Bordo, Dueker, and Wheelock (2002), Calomiris and Gorton (1991), Coman (1910), Dewey (1931), Fels (1959), Friedman and Schwartz (1963), Glasner (1997), Jalil (2015), Kemmerer (1910), Kindleberger (1989), Lebergott (1964), Miron (1986), Myers (1970), Shultz and Caine (1937), Sobel (1988), Sprague (1910), Studenski and Krooss (1963), Thorp, Thorp, and Mitchell (1926), Wicker (1996), and Wicker (2000).

TABLE 2

EXCLUDED PANICS

Year	Reason for Exclusion
1730	Colonial
1763	Colonial
1772	Colonial
1792	Mainly confined to financial markets.
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. Mainly the South.
1861	Civil War. National in scope.
1877	Confined mainly to state-chartered banks, private banks, and savings banks.
1896	Seldom mentioned by financial historians.
1901	Mainly stock market panic.
1903	"Rich Man's Panic." Mainly stock market.
1914	WWI
1920–1921	Contraction due to monetary policy.
1929	Mainly stock market.
1931	Partially a continuation of the initial banking crisis that began in late 1930.
1933	Partially a continuation of the initial banking crisis that began in late 1930.
1937–1938	Contraction due to monetary and fiscal policy.

Sources: See the text, third section.