

March 17, 2021

Hugh Rockoff  
Distinguished Professor  
Rutgers University  
Department of Economics 75 Hamilton Street New Brunswick NJ 08901  
[Rockoff@econ.rutgers.edu](mailto:Rockoff@econ.rutgers.edu)

### **Appendix for “Oh How the Mighty Have Fallen”: Case Studies**

**The Panic of 1819.** After the establishment of the Second Bank of the United States in 1816, the West was caught up in real estate speculation. Much of the land was owned by the federal government, but it was being purchased rapidly at federal land offices. Many of the mortgages financing these purchases were provided by state chartered banks and private banks. However, the western branches of the Second Bank of the United States – Cincinnati, Chillicothe, Lexington, and Pittsburgh – were deeply involved as suppliers of credit to these banks. The Second Bank had initially adopted the policy that notes issued by one branch must be redeemable at every other branch. The idea was to create a currency acceptable nationwide while giving all regions access to the seigniorage produced by creating money. However, this policy was not accompanied by restrictions on the total amount of notes that an individual branch could issue. This allowed the western branches to make large loans in a currency that other branches were responsible for redeeming.

In 1818, for this and other reasons, the Second Bank realized that the western and southern branches were dangerously overexposed.<sup>1</sup> In July 1818 the directors demanded that the Cincinnati branch

---

<sup>1</sup> According to the statistics for the Bank as a whole in Historical Statistics, Table Cj189-200, the Bank had total assets of \$57 million in 1818 which had fallen to \$48 million by 1820. The reserve ratio (specie to short-term liabilities) had increased from .11 to .27 and leverage (short-term liabilities to capital) had fallen from .6 to .4. No real estate is recorded on the official balance sheet.

begin collecting debts owed by the commercial banks in Cincinnati. In August 1819 it ordered all branches to refuse to redeem the notes of other branches. The effects in the West were dramatic.<sup>2</sup> In November three chartered banks in Cincinnati suspended as did the Bank of the State of Kentucky although it resumed within a week (Huntington 1915, 292).<sup>3</sup> A similar story was playing out in western Pennsylvania where the Pittsburgh branch was restricting credit (Blackson 1978, 341-66).<sup>4</sup> A national banking panic was underway.

The real estate boom in the West, of course, came to a screeching halt. In the end, the Second Bank would own a great deal of western real estate. Westerners were understandably outraged, even if they were partly responsible. It was the start, many historians contend, of western opposition to the Second Bank. William Jones, the President of the Second Bank was forced out, and in March 1819 Langdon Cheves, a conservative southern politician became president. Cheves continued the contractionary policy of his predecessor.<sup>5</sup>

There was a second problem: speculation in stock of the Second Bank by principals of the Baltimore branch. The House of Representatives launched an investigation of the Bank. Its report was issued on January 16, 1819. While it absolved the Second Bank of the charges of oppressing the state banks (by calling in loans at the Western branches), it was nevertheless highly critical of the Bank's

---

<sup>2</sup> 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 the land boom.

<sup>3</sup> There was also a private bank in Cincinnati, John H. Piatt & Co., but it is not clear whether it 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 his notes. Piatt then gave up banking, returned to his grocery business, and redeemed most of his notes with merchandise (Rowe 1912, 175-78).

<sup>4</sup> *Niles's Register* reported the suspension of specie payments in Cincinnati on December 5, 1818 (v15, 256) and the suspension in Western Pennsylvania on December 12 (v. 15, 283).

<sup>5</sup> Traditionally many historians followed Ralf Catrall (1903) who viewed Cheves as the savior of the bank. Later, Fritz Redlich (1968, 106-10) and Edwin Perkins (1984) argued that it was a mistake for Cheves to follow a policy of austerity as the economy fell into a recession.

management and found that the Bank had violated the Bank's charter. The Baltimore branch was singled out for corruption. Most historians agree that the Baltimore branch was corrupt and wildly overextended. Catterall (1903, 43) says, Baltimore's "debt to the bank and branches was astounding, being for the most of the time over \$8,000,000." This would be about \$196 billion in 2015 using GDP as the inflator.<sup>6</sup> The president of the Second Bank, William Jones, resigned in disgrace shortly after the release of the report.

Although its reputation was badly damaged, the Second Bank managed to survive. A motion in the House to force the Bank to show cause why its charter should not be revoked was defeated on February 24, 1819. In addition, under its new president Langdon Cheves, who took office on March 6, the profitability and reputation for prudence of the Bank was gradually restored. However, if branches of the Second Bank of the United States could be run by crooks and driven to the edge of insolvency, how could any bank be trusted? The result was an acceleration of the financial meltdown that had begun in 1818.

To a surprising degree, the Western and Southern branches of the Second Bank behaved much like Fannie Mae and Freddie Mac in the run-up to the panic of 2008: borrowing short-term from other financial institutions and making reckless loans ultimately collateralized by real estate.

**The Panic of 1837.** Contemporary observers and financial historians have cited many factors that set the stage for the panic of 1837. Andrew Jackson's issue of the Specie Circular, which required that specie (gold or silver) be used to buy government land, a measure intended to curb speculation in Western land, has often been cited. Increases in lending rate adopted by the Bank of England have also been singled out (Helderman 1931, 3-9; Temin 1976, 136-39). Concerned about a loss of specie, the Bank raised its discount rate from 4 to 4.5 percent in June 1836 and then to 5 percent in August. In September it took the extraordinary step of issuing a letter asking the banks to deny credit to certain American houses.

Albert Gallatin was America's longest serving Secretary of the Treasury, and is still one of the most admired architects of the American financial system; second in the opinion of many financial historians to Alexander Hamilton. In 1837 he was serving, apparently actively, as president of the

---

<sup>6</sup> From Measuringworth.com, accessed August 3, 2017.

National Bank of New York. In his memoir of the crisis Gallatin (1841) cited many factors that led up to the crisis, factors that economic historians continue to stress: real estate speculation in the West, the Bank War, the specie circular, and the distribution of the surplus. However, he also says the following (1841, part 2, 31).

It must be acknowledged that, great as was the distress during that winter, and notwithstanding all the ominous circumstances of the times, the danger of a general suspension was not anticipated by the banks or the merchants of New York, nor indeed it seems, anywhere else, before the month of March 1837.

What happened to push the New York banks into action? Two failures: Hermann, Briggs & Co., a New Orleans Cotton factor (broker), and J. L. & S. Joseph & Co. a bill broker and investment bank in New York City. The two failures were linked; the Josephs had accepted a large amount of paper endorsed by Hermann, Briggs. Both banks had excellent reputations before they went under (Lepler 2013, *passim*). The Josephs, moreover, were known to be the representatives of the Rothschilds in New York and that, obviously, would have been viewed as a mark of distinction.<sup>7 8</sup> Later, the famous investment banker August Belmont became the Rothschild's representative.

The problem for Hermann, Briggs seems to have been drying up of credit for purchases cotton (Korn 1969, 177). In addition to lending to Herman, Briggs, the problem for the Josephs seems to have been investments in several speculative ventures that ended badly. They were subscribers to the Texas Republic Loan of 1836 that failed to find buyers (Sakolski 1932, Kindle Location 4102). They had invested in shares in the Lafayette Bank that failed in the Panic. They were also heavy investors in the American Land Company, which was spending heavily on western agricultural land, especially cotton land. And they were investors in the New Brighton Association, a luxury real estate development on Staten Island. The residents, according to the advertising brochure were going to live in "Castles." And it

---

<sup>7</sup> Samuel Hermann had tried to ally himself with the Rothschilds, based on the recommendation of the Josephs, but was not accepted.

<sup>8</sup> Rousseau (2002), however, puts less weight than traditional accounts on the failure of J. L. & S. Joseph & Co. in precipitating the crisis in part because the bank runs began about six weeks later.

was to be a “Village of Fountains,” fed by a large pond, with the fountains to be reproductions of the grand fountains of Europe: Versailles, Berlin, Constantinople, and so on. The project failed and the United States Bank eventually foreclosed on a mortgage for \$470,000 (Scoville 1870, v. 1 221), about \$250 million today using “Production Worker Compensation” from Measuringworth.com as the inflator.

The *New York Herald* (March 18, 1837, column A) positively gushed when it described the Josephs before their fall.

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.

Both precipitants of the crisis were headed by German Jews. It does not seem that this caused much of a problem for these firms before they failed, but anti-Semitism does seem to have influenced the way some observers thought about the failures afterwards (Lepler 2013, *passim*), and so may have played some role in undermining confidence in the system.

**The Panic of 1839.** This Panic was triggered by the suspension of specie payments by the United States Bank of Pennsylvania in October 1839. This bank was the successor to the Second Bank of the United States. After Andrew Jackson vetoed the bill re-chartering the Second Bank, the President of the Second Bank, Nicholas Biddle secured a charter from Pennsylvania and continued operations. After it suspended specie payments the Bank continued to struggle, but went bankrupt in 1841, adding to the depth of the ongoing depression.

How did the Bank of the United States of Pennsylvania get into trouble? The Bank’s problems can be traced in part to Nicholas Biddle’s cotton speculations. Biddle apparently believed that he could singlehandedly restore prosperity to the nation as a whole while making speculative profits for his bank if he could raise the price of cotton (Hammond 1948, Chapter 16, *passim*). When that project failed, the Bank was forced to suspend. Part of the bank’s early difficulties, however, and its eventual failure resulted from its acquisition of a large portfolio of bank stocks and state government bonds (Wallis 2001). The latter had been issued to finance internal improvements, mainly canals, and they deteriorated sharply in value when many of the projects were abandoned. Although the bank was not investing directly in real

estate, it was doing so indirectly. The exact details of the financial instruments that the United States Bank of Pennsylvania relied on were different from the instruments relied on by the investment banks that got into trouble in 2008. The United States Bank of Pennsylvania leveraged its capital by issuing “post notes” rather than repos; it invested in state government bonds, rather than in privately issued securities backed by real estate mortgages. However, viewed from a broader perspective, the stories are similar. In both cases, an investment bank met with disaster 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.

The failure of the Morris Canal and Banking Company, as noted above, preceded the failure of the United States Bank of Pennsylvania. Its name tells us its purpose: to help finance canals in New Jersey. The first report for the Morris Canal and Banking Company in Weber (2014) is for March 1836 when the bank is shown with a capital of \$1,000,000 and total assets of \$1.8 million. In February 1837 total assets reached a peak of \$8.9 million, by far the largest total for any bank in New Jersey before the Civil War. The main asset categories were stocks (bonds – the terminology has changed) of \$1.0 million, real estate of \$2.9 million, and loans and discounts of \$3.7 million. The leverage ratio at that time was 7.7, although it is possible that not all of the capital had been paid in. The last balance sheet for February 1838 shows total assets of \$5.9 million, with the largest subcategories being loans and discounts with \$2.7 million and state bonds with \$2.2 million.

What was the reputation of the United States Bank of Pennsylvania? Why would a panic start when it failed? Nicholas Biddle, as noted, was head of the Bank. Biddle had lost the famous “Bank War” with the immensely popular Andrew Jackson, but Biddle had come close to winning. His proposal to renew the charter of the Second Bank of the United States passed both houses of Congress only to be vetoed by Jackson. Moreover, his standing among financiers was unrivaled. Biddle’s decision to seek a new charter from the state of Pennsylvania and to continue his dominant position in the nation’s financial system was widely applauded. Indeed, it could be said that next to Alexander Hamilton, Biddle was the

most renowned financier in America before the Civil War. No wonder that the suspension of his Bank would undermine confidence in the financial system as a whole.

**The Panic of 1854.** The Panic of 1854, like the Panic of 1819, was most severe in the West, although New York was affected as well. 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. According to Berry, these were private banks and trust companies, in today’s lexicon shadow banks. The railroads, having little else, provided equity 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. The western financial system was then hit by a series of bank failures. On December 1, 1854, according to Berry (1943, 514) “the merchants and manufacturers [in Cincinnati] found no bank accommodations whatsoever.” 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, and to 3½ – 3¾ in December. 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 economy recovered in 1855 and 1856, but was hit by a new and more severe crisis in 1857.

The first headline in the *New York Times* to use the word panic in 1854 occurred in October (*New York Times*, October 23, 1854, p. 3, reprinting a story from the *Cincinnati Gazette*). 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, Sturges, and Goodman, another private bank, suspended. In November, Ellis, Sturges, and Goodman and two other private banks closed. According to Huntington (1915, 445), the private banks in Cincinnati that closed in 1854 were “well thought of houses.”

**The Panic of 1857.** This panic is an outlier among American financial panics because it is usually traced to a single failure, that of the Ohio Life Insurance and Trust Company at the end of August

1857, rather than to a series of failures.<sup>9</sup> Hugh McCulloch, a well-regarded western banker – he later served as the first Comptroller of the Currency and as Secretary of the Treasury under three presidents – wrote (1888, 132) that “It was a bolt from a cloudless sky.” He added, moreover, a glowing tribute to the prudence of Ohio Life.

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, 132-133).

James Gibbons published a lengthy history of the panic in 1858, and was obviously intimately familiar with what was happening in New York. Here is his take on the Bank:

The institution had stood high in the public esteem for a number of years. It was regarded as the more safe, because it was not a bank of issue<sup>10</sup>, and because its affairs were supposed to be conducted on the conservative plan of our Trust Companies, avoiding the active and changeable risks of commerce, or touching them only with extreme caution. (Gibbons 1858, 351).

Gibbons (1858, 352) then goes on to explain why the revelation of the failure of a bank with a sterling reputation caused a panic.

If its entire capital of two millions of dollars could be dissipated—if its means could be employed in desperate stock-gambling in the public market, with all the usual hypothecation of securities, and transfers, and extensive bank loans, of which the records of the Company must have given *some* evidence — all this without discovery, and even without exciting suspicion in the minds of the trustees — why might not similar transactions be concealed in other institutions of which the trustees are equally well accomplished and esteemed?

**The Crisis of 1873.** There were several failures in the fall of 1873 that triggered the panic. On September 8 the New York Warehouse & Security Co. failed. Schwartz (1987, 273) notes that the company was “organized to lend on grain and produce, but involved in railway loans.” Mixon (2008, 726) adds that it was investments in the Missouri, Kansas, and Texas Railroad that were to blame. On

---

<sup>9</sup> Although the panic was an Ohio-centered event, Chabot and Moul (2014) found that the Ohio banks recovered more rapidly after 1857 than did the Indiana banks after the milder (on a national scale) panic of 1854, showing how the recovery varied from one banking system to another.

<sup>10</sup> It appears that the bank had skirted the law and issued some paper intended to circulate from hand to hand as a money.

September 13 Kenyon Cox and Company, a New York brokerage, failed. The key partner was Daniel Drew who had a mixed reputation on Wall Street. He was famous, but he was a “plunger.”<sup>11</sup>

The key blow was the failure of Jay Cooke and Company on September 18, 1873. At the time Jay Cooke and Company failed, Jay Cooke was the most trusted living American financier; surely the only one who enjoyed as much prestige on Main Street as on Wall Street. His reputation was based on the role he had played during the Civil War. Cooke, who had been appointed by Salmon Chase Lincoln’s Secretary of the Treasury, had helped finance the Union by establishing a network of agents throughout the North to sell bonds to middle class investors. After the war, these investors turned to Cooke for financial advice and to his bank for a safe place to put their savings. It is said also that Union Army veterans sought Cooke’s advice and placed their savings. When Cooke’s firm closed its doors, the shock was palpable, and precisely because of Cooke’s reputation.

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

What of Cooke’s reputation? *The New York Times* (Sep. 19, 1873, p. 3) stressed the heroic background of Cooke.

The causes of this deplorable event to one of the first houses in the country, *the* house most closely connected and identified with the great negotiations of the Government during the war and after its close, it is too early perhaps to go into. But the chief mistake we have reason to apprehend originated in the too generous enterprise, and it may be excessive enthusiasm and confidence of the senior partner, Mr. Jay Cooke, as connected with the great Northern Pacific undertaking.

This explanation was carried verbatim in the *Cincinnati Enquirer* (September 20, 1873, p. 1) along with other details about the growing storm. The *Times* (Sept. 19, 1873, p. 1) also published a short sketch of Cooke that concluded with this encomium.

A man of princely liberality, dispensed in widest streams, the misfortune that has now, it is to be hoped temporarily, befallen him, must be deplored by thousands of beneficiaries, and is indeed a matter of national regret.

The *Hartford Courant* (Sep. 19, 1873, p. 2) told its readers:

The failure of Jay Cooke & Co. was the chief subject for wonderment and must be regarded as a national misfortune. The house has not been known to be largely interested in stock speculations but was rather considered to be doing a safe and legitimate business.

The *Courant* went on to note that the suspension of Augustus Schell “one of the oldest and most prominent of New York brokers and bankers” – a house connected to Commodore Vanderbilt – was only “less surprising.”

The New Orleans *Times Picayune* (Sep. 11, 1873, p.2) was, as you might expect from a southern paper, less sympathetic toward Cooke. The *Picayune* agreed that Cooke was important.

Jay Cooke & Co. have been long considered as the central figure about which our national system of finances revolves. They were the most extensive bankers in America.

In addition, the *Picayune* agreed that Cooke’s marketing of the public debt during the war had been outstanding.

Their brilliant operations in selling hundreds of millions of dollars in Government bonds during and since the war, were far more formidable to the Southern Confederacy than was the strategy in the field of any corps commander of the Federal army, and in magnitude were probably never equaled.

However, the *Picayune* was not about to credit Cooke with a high moral character.<sup>12</sup>

This was one of those gigantic houses whose fortunes grow out of the misfortunes of the nation. Granting all that may be asserted of Jay Cooke’s services in placing the seven-thirty loan at the time when the Government was an urgent borrower, it must be said after all that he received his reward in immediate and ample munificence. If you call Jay Cook patriotic, we retort that the patriotism which paid a commission of one to five per cent percent was of a kind which any manner of man would be glad to devote to any sort of a country if he could only get the chances and special privileges that were accorded to Jay Cooke.

Cooke’s effort to build the Great Northern railroad, the paper argued, moreover, was a fraud.

Grand inception. Magnificent undertaking. But there were those who looked on the map and when they had vaguely traced with doubting finger the probable route of the railroad, that began nowhere, ran through and unknown and trackless land and ended where it began, shook their heads.

---

<sup>12</sup> In this case the *Picayune* was quoting the *St. Louis Republican*, This was a frequent practice and to save space I have not included these references.

Indeed, the *Picayune* went on to compare the fall of Jay Cooke & Co. with the Crédit Mobilier scandal that had rocked the nation just a year earlier.<sup>13</sup> It was, at least in general terms, a persuasive comparison. The Crédit Mobilier scandal was about the financing of the construction of the Union Pacific Railroad; Jay Cooke's failure was about financing the Northern Pacific Railroad.

The first reference in the Hawaiian papers that I have found was in the *Hawaii Gazette* (October 8, 1873, p. 3) which noted that the "banking house of Jay Cooke & Co. has failed." The next sentence added that "Dr. Livingston has been heard from." On October 11 the *Pacific Commercial Advertiser* (p. 3) reported that the "Great firm of Jay Cooke & Co. had suspended, and the question was "who was next." By October 22 the *Gazette* (p.2) was reporting that there was "Panic in America," that many houses had suspended, and the panic was a great as when "Overend Gurney failed."<sup>14</sup>

Henry Cooke, Jay's brother was a partner in Jay Cooke and Company and a well-known financier in his own right. One indication of Henry Cooke's reputation is that he was made a trustee of the Freedman's Savings Bank, the bank chartered by the Federal government after the Civil War to provide a place for former slaves to save. According to Carl Osthaus (1976, 152) Henry Cooke was a "commanding figure" in the bank who, unfortunately, was responsible for many of the speculative investments that led to its failure in 1873.

Rendigs Fels (1959, 99), in his history of the post-Civil War business cycle put it 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.

Fels's last remark is especially interesting because, as he knew, the next panic began with exactly that, the failure of a financial pirate.

---

<sup>13</sup> The Crédit Mobilier scandal still ranks as the most important in American history in terms of political fallout. In the simplest terms, it was a story of government money paying for the construction of the Union Pacific Railroad while a good deal was siphoned off along the way. Many Congressmen and two vice presidents were tainted.

<sup>14</sup> Hawaii did not become a territory of the United States until 1898.

**The Panic of May 1884.** This panic was precipitated by a tightly packed cluster of failures. On May 6, the Marine National Bank suspended, because of a worthless loan of \$750,000 to Grant and Ward, a brokerage, whose bankruptcy was revealed on May 8.<sup>15</sup> On the 13<sup>th</sup> the Second National Bank suspended, and on the 14<sup>th</sup> the Metropolitan. Looking back, Alexander Noyes (1909, 100) concluded that

When it is considered that the performances of John C. Eno (a bank president accused of fraud), Grant & Ward, the Marine Bank, and Metropolitan Bank, all came to public knowledge within a single week in the same community, the shock to financial confidence is not hard to understand.

The panic did not last long, and was confined mostly to New York. Gorton and Tallman (2016, 130) credit timely action by the New York Clearinghouse in its handling of the Metropolitan National Bank's difficulties with minimizing the damage from the crisis.

What were the longer-term reputations of these banks? How did those reputations change after the failures? The reputations of the national banks were clearly very good up to the crisis. The Marine National, according to Senator Sherman was "an institution that had been in high credit and standing." And the Metropolitan National Bank he noted, was "one of the oldest, largest, and in former times considered among the best, of all the banks in New York" (Sherman 1895, 879).

The story of Grant & Ward was, to say the least, more complicated. Grant & Ward was a brokerage, perhaps equally well described as a hedge fund, in any case a shadow bank, that derived its reputation, in part, from one of its partners Ulysses S. Grant.<sup>16</sup> Ferdinand Ward, Grant's partner, was known to be a speculator, but had a good reputation in the early days of the firm. He was known, according to Robert Sobel (1999, 209), as one of the "young Napoleons of Wall Street." Ulysses Grant, despite some scandals during his Presidential administrations, was still America's most beloved citizen (outside the South).

Ward was adept at enticing investors by promising high returns; but was in over his head. He soon turned to Ponzi financing to keep his firm afloat. Like the authors of other Ponzi schemes, Ward had

---

<sup>15</sup> This would be about \$200 million today (2015) using nominal GDP per capita as the inflator; about \$1.14 billion using GDP as the inflator. From <https://www.measuringworth.com>

<sup>16</sup> Ward hired Grant's son, and then used the son to pull in his father.

a story. He was investing in government contracts, supplying the army with flour, clothing, blankets, and so on. The margins, he claimed, were huge allowing him to reward his investors with high rates of return. How could he win all these valuable contracts? Simple, his partner was U.S. Grant! The problem was that there were no contracts, none. Ward was running a pure Ponzi scheme. A few investors demanded and got their investments back with the profits Ward had promised, but Ward was successful in persuading many others to reinvest and in drawing in new investors. To keep the game going he was drawing more and more money from Marine National Bank.<sup>17</sup>

Shortly before the failure of the firm, word of Ward's shenanigans began to spread among the cognoscenti. When Ulysses 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. Not everyone, however, was convinced. The *Daily Honolulu Press* (July 5, 1884, p. 1) claimed that "It is not believed that the Grants were so innocent – such blockheads – as they pretend to be, and it should be proved in court by jury that they were victimized by the wicked Ward before people will be charitable enough to believe that they were the innocent idiots they claim to be."

While the reputations of Grant and Ward and the Marine Bank were strong before the crisis it did not take long for a very different understanding to emerge. Henry Clews was a prominent Wall Street broker during the second half of the nineteenth century and a famous chronicler of Wall Street. Next to Jay Cooke he was the largest marketer of Union bonds during the Civil War, and afterwards an advisor to Ulysses Grant. His *Fifty Years in Wall Street* (1908) is rightly regarded as a classic. Clews (1908, 742)

---

<sup>17</sup> My discussion of Ward relies heavily on Geoffrey Ward (2012). The author, a prolific and well regarded historian, is Ferdinand Ward's great grandson. His book which is based on a trove of family documents, as well as other sources, is not by any means an attempt to salvage Ferdinand Ward's reputation. In fact, Ferdinand comes across as uniformly despicable person.

noted succinctly that Ward “went up so high that when he came down he landed in Sing Sing prison.” Fish, the president of the Marine Bank, did the same after being long in good repute.” The prompt framing of Ward and Fish’s victims as people who were lured into schemes by believing in rates of return that were too good to be true – Ward promised his investors 10 to 20 percent per month – limited the damage. If you were smart enough not to be taken in and instead invested in a bank that offered a reasonable rate of return, why should you immediately withdraw your cash from the bank?

While there was some skepticism about Ward before the failure of Grant & Ward, and hence the Marine Bank on which it leaned, the reputation of the Metropolitan experienced an even more stunning reversal. The President of the Metropolitan, George Seney, according to Sobel (1999, 219) was “a well-known patron of the arts,” and was “thought beyond suspicion” but then it was discovered that he 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 damage (Sprague 1910, 111-15; Wicker 2000, 40). The rapid framing of the problem as difficulties caused by a few crooks in high places, some of whom had fled and were being sought by the police, helps account for the mildness of the panic.

It is useful to compare Ward with Charles Ponzi.<sup>18</sup> Both ran simple Ponzi schemes.<sup>19</sup> Both attracted investors by providing a plausible story and promising outrageously high rates of return; Ward promised 10 to 20 percent per month and Ponzi promised 50 percent in 45 days.<sup>20</sup> Both kept going for a short-time by paying interest to older investors with money from new investors. And both ended up spending time in jail for fraud. Ponzi’s failure in Boston in 1920 led to runs on a number of Trust companies in Boston that were associated with, or at least rumored to be associated with Ponzi, but as in

---

<sup>18</sup> My discussion of Ponzi is based mainly on Zuckoff (2005).

<sup>19</sup> Ward would have a good case for complaining that it should be called a Ward scheme rather than a Ponzi scheme. Of course, robbing Peter to pay Paul has been part of many frauds through the ages.

<sup>20</sup> By my reckoning Ponzi was offering the better deal; 330 percent annually versus only 201 percent!

1884, the panic was localized. In both cases it was quickly revealed that Ward and Ponzi were crooks, and that only people who had actually been taken in by their too-good-to-be true claims needed to worry.

**The Financial Stringency of 1890.** This Panic like the panic in 1884 was relatively mild. Sprague (1910, 124) refers to it as a “financial stringency” rather than a crisis or 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.

The key events occurred in November. On November 7, the Bank of England advanced its discount rate from 5 to 6 percent signaling increased tension in the world’s leading financial center. The U.S. stock market swooned, a result triggered, according to Wicker (2000, 45) by the failure of “the large and well-respected brokerage firm of Decker, Howell and Co” on November 11. Easton and Stedman (1905, 342) thought that “The high standing of the house gave its failure a most depressing effect ...” Another well-respected brokerage, Charles M. Whitney & Co. also failed on the 11. *The New York Times* (1890, Nov 12, 1), in a story headlined, “Firms Fail, Banks Shaken: Wall Street in a Ferment of Excitement” told its readers that Charles M. Whitney was “regarded as one of the richest firms about Wall Street” and that Decker, Howell was “one of the most prominent brokerage firms of the Street.”

The news of the embarrassment of Baring Brothers reached the United States on November 15. Some commercial banks such as the Bank of North America were involved in the panic, but center stage clearly belonged to the shadow banks.

Henry Clews, who I quoted with respect to the Panic of 1884, had no doubt that it was the failure of Barings Brothers in London that produced the Financial Stringency of 1890.

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, 900).

Clews did not reject the idea that the size and direct connections of Baring Brothers were important, but clearly “the shock to confidence” caused by the failure of that “celebrated and honorable house” was, if anything, of first importance.

**The Crisis of 1893.** While the crisis of 1890 was relatively mild and short-lived, the crisis of 1893 proved to be the start of a major depression. Of course, It could well be that the crisis at 1890 had made people nervous about conditions financial markets so increased the reaction to events in 1893.

Sprague (1910, chapter iv.) distinguishes three stages in the crisis. The first runs from January through April 1893. Sprague tells us that there was no distrust of the banking system during this stage, but there was a slump on the stock market, and a general slowing of economic activity. The failure of the Philadelphia and Reading Railroad on February 26 was a key event. Sprague’s second stage runs from early May to mid-July. During this period, there were many failures of financial institutions in the Midwest, the South, and on the Pacific Coast. The distrust of the solvency of the banks in these regions in turn produced a drain of cash from New York. The most important failures were in Chicago, the financial center of the Midwest.

Frank Cyril James (1938, 580-610) provides a detailed description of the Chicago 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 had been to 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).<sup>21</sup> The branch had \$100,000 in deposits, many from foreign exhibitors, and so a committee of

---

<sup>21</sup> 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.

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 controlled by Zimri Dwiggins who had, according to James, created a financial house of cards. The base was the Trust Company. It issued bonds, the proceeds from which Dwiggins 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 these banks.

With banks in Chicago and rural Indiana and Illinois 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 and Columbia National. The reason was probably that these failures were quickly framed as the work of an imprudent banker, Zimri Dwiggins, who the experts had avoided. The Columbia National suspended on May 11. The next day the *New York Times* (May 12, 1893, 1) told its readers “The bank pursued methods which were disapproved by conservative bankers.” Four days after the suspension the *Washington Post* (May 15, 1893, 1) had this to say about the Columbia and the chain of small banks in Indiana it supported.

Banks with Little Capital organized to get salable stock on which to issue bonds through a wild-cat Loan and Trust Company – From Bucket-shop keeper to Napoleon of Finance and Millionaire.

Then on Saturday June 3, Herman Schaffner and Company of Chicago broke. This firm initially had specialized in commercial paper, but financed local speculators in street-railway stocks and local real estate developers (Judy 2013). Schaffner hired a boat and rowed into Lake Michigan from which his body was recovered. Following Schaffner’s failure, a panic, concentrated among the local savings banks, took hold. While the *New York Times* had told its readers that the failure of the empire of small banks built by Zimri Dwiggins was understandable, the failure of Herman Schaffner & Company was a different story. “Schaffner & Co. always stood well in the regard of New-Yorkers, and their failure caused a good deal of

surprise” (*New York Times* June 4, 1893, 1). Press reports claimed that 35,000 depositors in the Illinois Trust and Savings Bank had demanded their cash. For a time the banks in Chicago once more seemed to be on the mend, but then panic took hold again. On Monday July 17, The Missouri National Bank failed, bringing with it a string of failures.

What Sprague (1910, 175) designated as the third phase of the crisis began in the third week of July. The key failure was a shadow bank: the failure on July 25 in Milwaukee of the Wisconsin Marine and Fire Insurance Bank. George Smith, a young Scottish immigrant, founded the Wisconsin Marine in 1839. The charter permitted Smith to write insurance and do some banking. He had no authority to issue bank notes, but he did so anyway. He issued “certificates of deposit” in convenient denominations payable to bearer – effectively bank notes -- that circulated widely in the Midwest (Farwell 1905, Smith 1966). Smith’s early years in the Midwest have been celebrated by a number of writers for whom “George Smith’s money,” as it came to be known, was a brilliant example of how an unregulated bank could supply currency successfully. The role of the bank in the crisis of 1893, however, has received less attention.

George 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, eventually became president. Under his leadership the Bank abandoned its prudent ways. The younger Mitchell invested heavily in the debt of Ferdinand Schlesinger, a “plunger” in the vocabulary of the time, who had been borrowing heavily from several sources to finance an ambitious plan to monopolize Great Lakes iron ore production. The bank also lent heavily to insiders including Senator Mitchell himself. The bank’s suspension was a shock. According to James (1938, 593):

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.’<sup>22</sup>

---

<sup>22</sup> 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

To describe the height of the crisis in 1893 Sprague turned to a long extract from the *Commercial and Financial Chronicle*, as he did with other financial crises. The *Chronicle* told the story this way.

Our markets have been more disturbed and excited this week than at any time this year...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 held in high repute. The demand for currency for shipment to the West, stimulated by the failure of the “Mitchell” bank at Milwaukee and of banks at Louisville and Indianapolis was urgent on Tuesday ... (Sprague 1910, 176; quoting the *Commercial and Financial Chronicle*, July 29, 1893, p. 162).

The *Chronicle* was not alone in describing the shock produced by the downfall of the “Mitchell” bank. On July 25, 1893 *The New York Times* told its readers that “The Wisconsin Marine & Fire Insurance Co. was founded by Alexander Mitchell and was considered the strongest bank in Milwaukee.” On July 29 the *Wall Street Journal* (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 have a lot of stock of Northwest and St. Paul which had been coming on the market to provide funds.<sup>23</sup>

The fall of the Wisconsin Marine and Fire Insurance Bank was reported throughout the country. The *Fort Worth Daily Gazette* (July 26, 1893, 4), for example, explained things to its readers this way.

Many persons had become so imbued with the idea that this bank – “the old Mitchell bank” – was a Gibraltar of finance, that they could not credit the report that it had closed. There was a general belief that when all other banking institutions had disappeared from the face of the earth, that the Mitchell bank would continue to do business. It was this firm faith in the bank’s stability that made the shock so great.”

The story that a “Gibraltar of finance” had fallen was picked up by a number of papers around the country. The *Los Angeles Herald* (July 26, 1893, 1) ran the story under the headline: “The Financial Gibraltar of the Cream City Collapses.” The New Orleans *Times-Picayune* (July 26, 1893, 7) also used

---

acquisitions and mergers followed, and today George Smith’s Bank can be found in the DNA of JPMorgan Chase & Co.

<sup>23</sup> Investment in railroads were part of the problem, but as noted above its troubles stemmed mainly from other sources.

the phase. It reported on several bank failures in the Midwest, but designated the “Milwaukee Failure the most serious.” The reason: “it was this firm faith in the bank’s stability that made the shock to the public confidence so great.” The Rochester *Democrat and Chronicle* (July 27, 1893, 12) told its readers that

“the tumble in stocks for two days past has been in part attributed to the suspension of the Wisconsin Marine and Fire Insurance Bank, better known as Mitchell’s bank of Milwaukee. The failure is significant, as the institution was founded in 1843, and was considered the mainstay of finance in the Northwest.”

Undoubtedly, many people reading these stories in Los Angeles, New Orleans, Rochester, New York, and so on had never heard of the Wisconsin Marine and Fire Insurance Bank. Nevertheless, they could understand the import of the story for their own affairs. It was time to make sure your money was safe.

After the fact, there were a few experts who claimed that they had known it was a problem bank all along. On July 26, 1893 the *Chicago Daily Tribune* (p.3) described the failure of the Wisconsin Marine at length, describing it as “the oldest bank in the West”, and telling the story of how it provided needed currency after the Panic of 1837. However, the *Tribune* also reported that “a prominent and well-informed Chicago banker” claimed that while the failure was a “startling incident” ... “it need cause no anxiety to other banks, except perhaps in Milwaukee.” The Bank, the expert claimed, “was always run on short reserves.” For the most part, however, the press reported that “Gibraltar had crumbled,” to quote the song.

The failures and panic in the interior of the country led to a drain of specie from the big New York banks, pushing New York toward the suspension of specie payments. Some writers have also stressed the fear that the United States would not be able to maintain parity between gold and silver as a source of pressure on New York. The two forces are not mutually exclusive. Friedman and Schwartz (1963, 107-109) argued that the banking system suffered from both an internal drain of gold produced by the bank failures and panic in the Midwest and an external drain produced by uncertainty over continued maintenance of the gold standard. In any event, the New York banks suspended specie payments early in August and gold went to a premium. Within six weeks, however, the depositors had calmed down. People

seemed to have realized that they had over-reacted and that their deposits were generally safe. Congress had helped by repealing the Silver Purchase Act. Nevertheless, the economic contraction set in motion by the panic proved to be long and painful.

The panic of 1893 witnessed failures of national banks, investment banks, state banks and trust companies, and brokers. In other words, both regulated commercial banks and shadow banks. This panic is therefore a particularly clear example of the proposition that a financial panic in which the precipitating failures come from all corners of the financial system is likely to be a bad one. After all, if one is simply afraid of savings banks or building and loans or trust companies one can shift one's funds to another sort of institution, but what can one do if all sectors are under threat? Then only cash will do.

**The Crisis of 1907.** Sprague's (1910, 246-56) account of this panic is especially important because it was fresh in his mind when he began his classic history of financial crises. 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 the author of the copper speculations, had gained control of the Mercantile National Bank. The revelation of this connection 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 bank's board resign. The bank was able to open under these conditions, but 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 actual or rumored relationships with Heinze. The aid provided by the Clearing House was successful in calming the fears of depositors, but Sprague (1910, 249) adds, 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 New York Trusts, did a banking business under a state charter, and competed aggressively with the national banks. The trusts were not allowed to issue bank notes, as were the national banks, but in general they were subject to less supervision and regulation 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 Trust companies had expanded rapidly in the period leading up to the Panic of 1907 (Neal 1971). They were, in short, shadow or at least shadowy banks.

The problem for the Knickerbocker was the ties of its President, Charles T. Barney, a financier in turn tied to Heinze. 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). At about the same time, one of the New York national banks announced that it would not clear for the Knickerbocker. A heavy run forced the Knickerbocker to suspend on Tuesday. From there the panic spread rapidly throughout the banking system, although the heaviest damage was done to the Trust Companies (Moen and Tallman 2000).<sup>24</sup> The Knickerbocker was able to resume in March 1908.

Troubles at national banks set the stage, but suspension of cash payments by a trust company triggered the panic. Frydman, Hilt, and Zhou (2015) refer to the trust companies explicitly as shadow banks because they were subject to fewer restrictions than the state or federally chartered commercial banks and discuss some of the effects of the collapse of many of the trust companies.

The reputation of the Knickerbocker Trust, and of its President Charles T. Barney, was excellent prior to the run on it that triggered the panic (Bruner and Carr 2007, chapter 9, *passim*). The bank had grown rapidly and become the third largest trust in New York. In 1904 it had completed an impressive new headquarters designed by the famous architect Stanford White. “The Knickerbocker,” Alexander Noyes (1909, 370) tells us, “had catered especially to the so-called “up-town clientage” of the shopping and residence district ...”

In one account after another the sterling reputation of the bank, and its magnificent building were cited as the source of the panic. The *Outlook* (November 2, 1907, 89) put it this way.

When the Knickerbocker Trust Company, an institution nearly twenty-five years old, with a capital and surplus of over six millions of dollars, with deposits of over sixty millions, paying dividends at the rate of forty per cent per annum, with its stock of `00 par selling at 1,200, with a

---

<sup>24</sup> In *A Monetary History* (Kindle Locations 2474-2476) Friedman and Schwartz suggested that if the Knickerbocker had received enough help, the panic might have been averted.

banking house which is one of the most costly and beautiful commercial buildings in the country --- when this apparently unshakable institution suspended payment and its president was forced to resign, presumably because of either unwise or inefficient or unfair management, it is no wonder that public confidence was disturbed.

News of the run on the mighty Knickerbocker had spread like wildfire. Throughout the country newspaper readers learned that trouble lay hidden behind the imposing marble facade. On October 23, for example, the *Cincinnati Enquirer* (p.2) told its readers that

The run on the Fifth Avenue Bank, after it once got under way, was most exciting and in many respects the most remarkable in the city's banking. The Knickerbocker Trust Company has a marble palace across from the Hotel Waldorf-Astoria. It is perhaps the most sumptuous banking house in the country, and among its depositors are scores of wealthy and fashionable persons.

On November 15, the *Honolulu Advertiser* (p. 4) put it more succinctly. "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."

**The Panic of 1930.** Financial historians have suggested two failures as the catalysts for the Panic of 1930 and the Great Depression. Wicker (1996) stressed the failure of Caldwell and Company, an investment bank in Nashville Tennessee that failed in November 1930, while Friedman and Schwartz stressed the failure of the Bank of United States, a state chartered commercial bank in New York City that failed in December 1930.

Given the stock market crash and so many other things that were happening, why is so much weight placed on these particular failures by financial historians? Perhaps the most important consideration is that several indicators of the soundness of the financial system break at this time. Figure 1 below shows deposits in the U.S. Postal Savings system. A glance at the figure shows that something happened at the end of 1930. People became concerned about the safety of their deposits in commercial banks and began moving their funds into postal savings. It did not happen all at once. It took people time to learn about the safety of the postal savings system and actually move their funds. The ongoing flood of bad news undoubtedly influenced them as well. The change in the trend, however, is clear.

Caldwell and Company, whose failure sparked bank runs in the South, was an investment bank that got into trouble through classic violations of the real bills doctrine. One of the largest categories of its

assets was the common stocks of the companies, including a chain of banks that it controlled. For this reason it is sometimes described as a bank holding company. These assets 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 bank was, moreover, 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 obtained as part of deals for help in marketing their bonds, and deposits from Caldwell controlled companies. Caldwell and Company, was a shadow bank by today's definitions.

What was its reputation prior to its failure? According to McFerrin (1969, 117-119), the historian of Caldwell and Company, that by the late 1920s the bank "had so increased in size and built up such prestige in financial circles that it was referred to as the 'Morgan of the South.'"

The Bank of United States also had a good reputation before it failed. It was founded by Joseph S. Marcus. An immigrant from what is now Lithuania, in 1906 he helped found the Public Bank to cater to Jewish immigrants on the famous lower East Side of New York many of them in the garment trade. The Panic of 1907 wiped out many small banks on the Lower East Side, but the Public Bank survived and prospered, based on its "reputation for integrity" (Werner 2009 [1933], 3). In 1913 after a quarrel with a partner, Marcus helped found a new bank, also on the Lower East Side, the Bank of United States. This bank also prospered because of Marcus's "reputation for shrewdness and honesty" (Werner 2009 [1933], 7).

In July 1927 Joseph S. Marcus died and his son, Bernard K. Marcus, took over. Under his son the bank expanded rapidly through mergers and acquisitions establishing branches throughout the city, and began an aggressive program of investments in stocks and real estate made by two affiliates: City Financial Corporation and the Bankus Corporation (Bank plus Marcus?), 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."<sup>25</sup>

The nation's papers quickly supplied the public with accurate information about the failure; not just the fact that the bank had failed, but also the rest of the story. For one thing, they explained that the bank was not a government bank so the damage done by its misleading name was limited. However, the papers also explained that it was the largest bank failure in U.S. history to that point in time, and although it was not a Wall Street bank, that it was located in New York City, the nation's financial center, factors that were likely to undermine confidence in the financial system (Friedman and Schwartz 1963, 309-11; Kennedy 1973, 1).

The papers reported that Bernard K. Marcus had mismanaged the bank and made the risky, probably illegal investments that brought it down. But newspaper readers learned a great deal more than that. They learned that the bank had been prudently managed by its founder Joseph S. Marcus, but that unbeknownst to the public it had gone awry after his son had taken over in 1927. The *Brooklyn Daily Eagle* (December 28, 1930, 12) reported that "banking opinion has always looked on the works of the late Joseph S. Marcus, particularly in planting his bank branches in "gold mine" centers, as those of a banking genius". The *St. Louis Post-Dispatch* (February 20, 1931, 24) reported that during his lifetime Joseph "enjoyed a high reputation as a banker and as a scrupulously honest man." Few readers of the *St. Louis Post-Dispatch*, we can assume, had direct financial ties to the Bank of United States. Nevertheless, they could apply the lesson they learned from reading about it: In 1930 a bank's reputation for prudence, even one maintained for decades, might prove illusory and the financial experts may not recognize the problem in time and sound the alarm.

---

<sup>25</sup> 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, more generally, 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.

With respect to its reputation, the story the Bank of United States in 1930 is reminiscent of the story of the Wisconsin Marine and Fire Insurance Company Bank which failed in 1893 and Overend, Gurney, the English bank that failed in 1866. In all three cases, the reputation of bank was based on the reputation of one of the early founders of the bank, a reputation that endured even as their descendants made speculative long-term investments: Wise father, prodigal son.

Newspaper readers, moreover, soon learned that aid for the Bank of United States would not be forthcoming from the Clearing House (except in limited amounts) or from state or federal banking authorities despite it being the largest failure in the history of the United States to that point.<sup>26</sup> This information must have also must have proved alarming. Temin (1976, 94) argued that the failure of the Bank of United States probably had little impact on general attitudes toward the banking sector. It was “a special case” that was “speedily linked to fraud and dishonesty.” “There is little reason,” Temin concluded, “to think that holders of bank deposits generalized these character traits to all bankers as a result of this single failure.” But in light of the accurate and widespread reports in the press on the nature of the bank and the response of potential lenders of last resort, I am inclined to agree with Gandolfi and Lothian (1977, 683) that deposit holders probably did not view the failure of the Bank of United States as a situation that was unique, but rather “as a harbinger of the future posture of both the government and the banking sectors.”<sup>27</sup>

There was a debate at the time about whether the Bank of United States should have been bailed out. An arrangement was close to being worked out, but at the last moment, the New York Clearing House banks, the largest in the City, withdrew from the rescue plan, and the bank was closed. Jackson Reynolds, the President of the First National Bank and of the Clearing House Association, maintained

---

<sup>26</sup> A number of Clearing House banks offered to lend cash at 5% on the security of up to 50 percent of deposits in the bank.

<sup>27</sup> The failure of the Bank of United States caused some concern in London. But the damage was limited because it was quickly realized that the bank “did not stand in the front row of American Institutions.” Special Cable to The *New York Times*. (1930, Dec 12). Markets Abroad Affected, *New York Times (1923-Current File)*,

that closing the bank would have only local effects (Friedman and Schwartz 1963, 310n). Had he been using today's terminology he would have said that the bank was not "systemically important."

The possibility that anti-Semitism played a role in the decision not to bailout the Bank of United States sparked an intense controversy among academics. The Bank of United States dealt, at least when it began, mainly with Jewish customers. In an article in *Business Week* and in his television program "Free to Choose," although not in *A Monetary History*, Milton Friedman suggested that anti-Semitism played a role in the decision not to bail out the bank.<sup>28</sup> In this respect, there is a strong parallel with the Panic of 1837. In 1837 both precipitants of the crisis were led by German-American Jews. It does not seem that this caused much of a problem for them before they failed, but as noted above anti-Semitism does seem to have influenced the way some observers thought about the failures afterwards (Lepler 2013, *passim*). Friedman's contention about anti-Semitism was challenged by Joseph Lucia (1985), whose argument was criticized in turn by Friedman and Schwartz (1986b) who in turn were criticized by Anthony Patrick O'Brien (1992) and O'Brien and Paul B. Trescott (1992). In any case, whether the Clearing House banks 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 the Clearing House banks 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 by some influential bankers 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 cognoscenti might be considered very important by the public, especially in the context of news about deteriorating economic and financial conditions.

One could argue about which of the two failures, Caldwell and Company or Bank of United States, was the "real" trigger for the panic. However, the two failures (and an earlier wave of smaller

---

<sup>28</sup> Friedman and Friedman (1980) is the volume based on the TV series. The episodes are available on YouTube.

failures) undoubtedly reinforced one another. The implication of having two large financial institutions in different parts of the country and from different sectors of the financial system failing one after the other was to raise the subjective probability that money was not safe in any financial intermediary. Again, there were precedents. The twin failures in 1930 were reminiscent of the twin failures in 1837, one in New Orleans and one in New York.

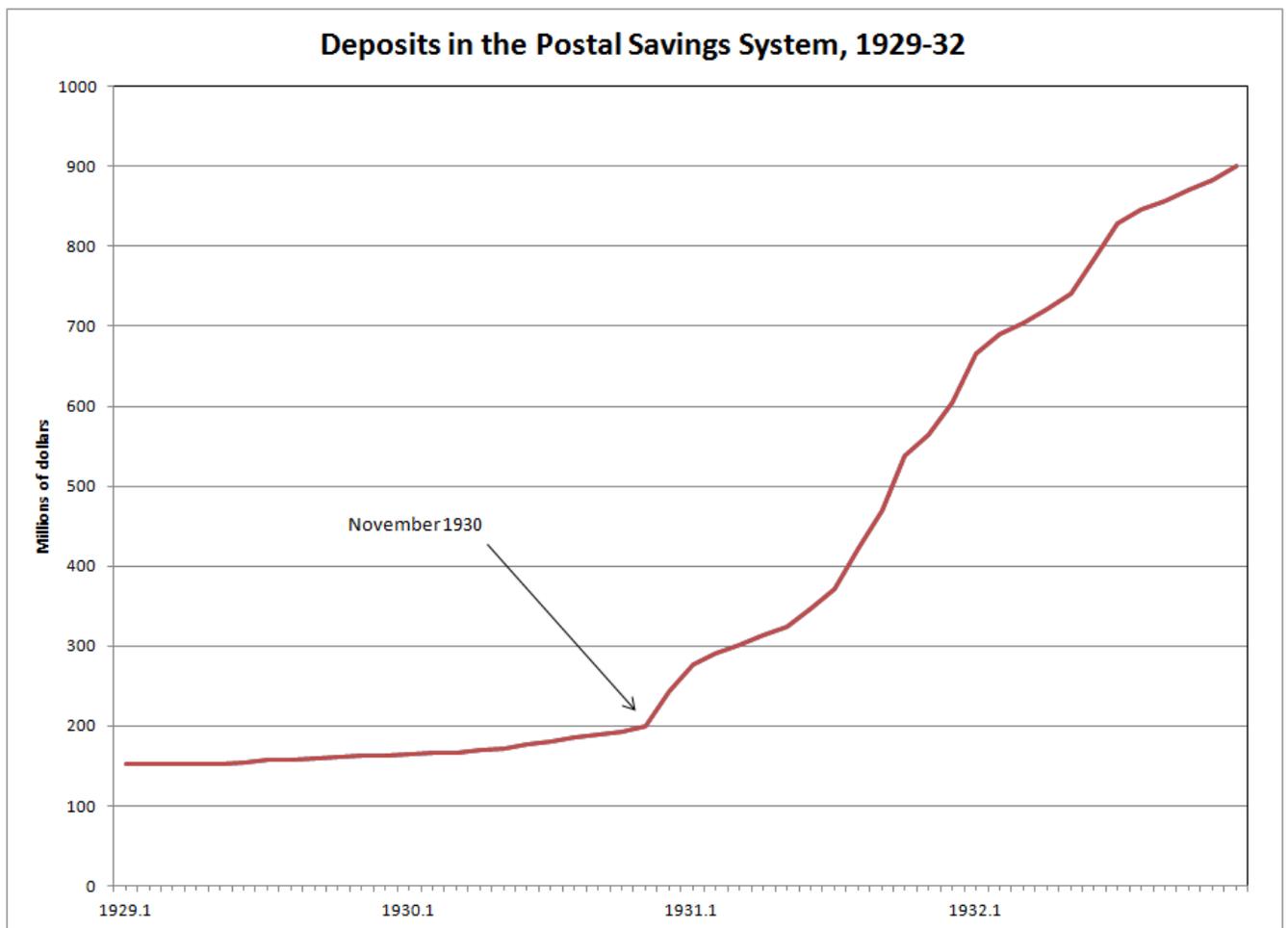


Figure 1

Deposits in the Postal Savings System, Monthly 1929-32.

Sources: Friedman and Schwartz (1970, 24-26).

**The Panic of 2008.** The most recent crisis provides another example of the rule that it is failures of trusted firms that start panics. Lehman Brothers' stock had fallen for some months before it filed for bankruptcy protection on September 15, 2008. Clearly, there was some understanding that Lehman had problems, 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. As shown in the table below Lehman Brothers Holdings 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 now ranked third among securities firms and Bear Stearns, which was only two months away from a government-aided acquisition by JPMorgan, ranked eighth. 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.<sup>29</sup>

When Lehman Brothers failed, the *New York Times* (March 15, 2009, 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.

The failure of a firm with Lehman Brother's reputation would have been unsettling at any time, but it was particularly demoralizing in 2008 because of the events that had preceded it. As suggested by Anna J. Schwartz and Andrew Ross Sorkin, investors were especially alarmed by the failure of Lehman Brothers because they were expecting a bailout along the lines of the Federal Reserve's assisted purchase of Bear Stearns (Ryssdal 2009; Sorkin 2009, epilogue, 553). Schwartz put it this way:

If the Fed and the Treasury made a candid statement to the market: We will help a bank, which basically is solvent. We will not do that for a bank, which is on the verge of bankruptcy. And then the market understands there are principles. That's why when Lehman Brothers was permitted to fail, the market was simply bewildered. Because here you had treated Bear Stearns in this kindly fashion, and what reason was there not to do the same when Lehman Brothers arose?

---

<sup>29</sup> Fannie Mae did not make the top 10.

Sorkin agreed, at least on the impact of an inconsistent policy.

They offered a safety net to Bear Stearns and backstopped Fannie Mae and Freddie Mac but allowed Lehman to fall into Chapter 11, only to rescues AIG soon after, What was the pattern? What were the rules? There didn't appear to be any, and when investors grew confused ... they not surprisingly began to panic.

Table 1. 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	Charles Schwab	Franklin Resources
7	Legg Mason	A.G. Edwards	AXA Financial
8	AXA Financial	Merrill Lynch	Bear Stearns
9	Charles Schwab	Franklin Resources	Merrill Lynch
10	Morgan Stanley	AXA Financial	E*TRADE Financial
Source: <i>Fortune Magazine</i> , America's most admired companies; 2006, 2007, 2008.			

**The Panic of ?**

## REFERENCES

- Allen, Franklin and Douglas Gale. 1998. "Optimal Financial Crises." *Journal of Finance*, 53: 1245-1284.
- America's most admired companies. Various years. In *Fortune Magazine* [database online]. Available from [http://money.cnn.com/magazines/fortune/mostadmired/2007/full\\_list/F.html](http://money.cnn.com/magazines/fortune/mostadmired/2007/full_list/F.html) (accessed May 23, 2013).
- Andréadès, Andreas Michaël. 2009. *History of the Bank of England*. London: P.S. King & Son.
- Abramovitz, Moses. 1959. Employment, growth, and price levels. Part 2: Historical and comparative rates of production, productivity, and prices: Hearing of the joint economic committee. Testimony of Moses Abramovitz. 86th congress, first session.
- Bagehot, Walter. 1924 [1873]. *Lombard Street: A description of the money market*. 14th ed. London: William Clowes and Sons, Limited.
- Berry, Thomas Senior. 1943. *Western Prices before 1861; a Study of the Cincinnati Market*. Harvard economic studies. Vol. Vol. LXXIV. Cambridge, Mass.: Harvard University Press.
- Blackson, Robert Markle. 1978. *The panic of 1819 in Pennsylvania*. Ph.D. dissertation. Pennsylvania State University.
- Bogart, Ernest Ludlow. 1930. *Economic history of the American people*. New York, London etc.: Longmans, Green and Co.
- Bordo, Michael. "The Financial Crisis of 1825 and the Restructuring of the British Financial System: Commentary." *Federal Reserve Bank of St. Louis, Review*. May/June, v. 80, iss. 3, 77-82.
- \_\_\_\_\_, Michael J. Dueker, and David C. Wheelock. 2002. "Aggregate price shocks and financial instability: A historical analysis." *Economic Inquiry* 40 (4) (10): 521-38.
- \_\_\_\_\_, and Harold James. 2010. "The Past Mirror: Notes, Surveys, Debates: The Great Depression Analogy." *Financial History Review* 17, no. 2 (October): 127-40.
- Bordo, Michael, and John Landon-Lane. 2010. "The banking panics in the United States in the 1930s: Some lessons for today." *Oxford Review of Economic Policy* 26 (3) (autumn): 486-509.
- Bruner, Robert F., and Sean D. Carr. 2007. *The Panic of 1907: Lessons Learned From the Market's Perfect Storm*. Hoboken, N.J.: John Wiley & Sons.
- Cagan, Phillip. 1965. *Determinants and Effects of Changes in the Stock of Money, 1875-1960*. New York: National Bureau of Economic Research.

- Calomiris, Charles W., and Gary Gorton. 1991. "The origins of banking panics: Models, facts, and bank regulation." In *Financial markets and financial crises*, ed. R. Glenn Hubbard, 109-173. A National Bureau of Economic Research Project Report. Chicago and London: University of Chicago Press.
- Calomiris, Charles W. & Stephen H. Haber. 2014. *Fragile by Design: The Political Origins of Banking Crises and Scarce Credit*. Series: The Princeton Economic History of the Western World, Joel Mokyr, Series Editor. Princeton and Oxford: Princeton University Press.
- \_\_\_\_\_ and Joseph R. Mason. 1997. "Contagion and Bank Failures during the Great Depression: The June 1932 Chicago Banking Panic." *The American Economic Review* 87 (5) (Dec.): 863-883.
- \_\_\_\_\_ and Larry Schweikart. 1991. "The Panic of 1857: Origins, Transmission, and Containment." *The Journal of Economic History* 51 (4) (Dec.): 807-34. \*
- Carter Susan et al., eds. 2006. *Historical Statistics of the United States: Earliest Times to the Present*. Millennial Ed. 5 Vols. New York: Cambridge University Press.
- Catterall, Ralph C. H. 1903. *The Second Bank of the United States*. The decennial publications of the University of Chicago [2d ser., v. 2]. Chicago: University of Chicago Press.
- Chabot, Benjamin, and Charles C. Moul. 2013. "Bank Panics, Government Guarantees, and the Long-Run Size of the Financial Sector: Evidence from Free-Banking America." *Journal of Money, Credit, and Banking*, August, v. 46, iss. 5, 961-97.
- Chubb, Hammond. 1872. "The Bank Act and the Crisis of 1866." *Journal of the Statistical Society of London* 35, no. 2: 171-95.\*
- Clews, Henry. 1908. *Fifty Years in Wall Street*. "Twenty-Eight Years in Wall Street," Revised and Enlarged by a *Résumé of the Past Twenty-Two Years, Making a Record of Fifty Years in Wall Street*. New York, NY: Irving publishing company.
- Coman, Katharine. 1910. *The Industrial History of the United States*. New York: The Macmillan Company.
- Conant, Charles A. 1915. *A History of Modern Banks of Issue*. Fifth edition. New York: G.P. Putnam's Sons, 1915.
- Dewey, Davis Rich. 1931. *Financial History of the United States*. American Citizen Series. 11th ed. New York: Longmans, Green and Co.
- Diamond, Douglas W., and Philip H. Dybvig. 1983. "Bank Runs, Deposit Insurance, and Liquidity." *Journal of Political Economy* 91 (3) (Jun.): 401-19.
- Diamond, Douglas and Raghuram Rajan 2001. "Liquidity Risk, Liquidity Creation and Financial Fragility: A Theory of Banking" *Journal of Political Economy* 109, pp 2431-2465.

- Easton, Alexander N, and Edmund Clarence Stedman. 1905. *The New York Stock Exchange: Its History, Its Contribution to National Prosperity, and Its Relation to American Finance At the Outset of the Twentieth Century*. New York, NY: Stock Exchange Historical Company.
- Eichengreen, Barry. 2012. "Economic History and Economic Policy." *The Journal of Economic History* 72, no. 2: 289-307.
- \_\_\_\_\_. 2015. *Hall of Mirrors: the Great Depression, the Great Recession, and the Uses-and Misuses-of History*. Oxford University Press.
- Esbitt, Milton. 1986. "Bank Portfolios and Bank Failures during the Great Depression: Chicago." *The Journal of Economic History*, 46, (2), the Tasks of Economic History, (Jun.): 455-462.
- Farwell, John V. 1905. "George Smith's Bank." *Journal of Political Economy* 13 (4) (Sep.): 590-3.
- Fels, Rendigs. *American Business Cycles, 1867-1897*. 1959. Chapel Hill: University of North Carolina Press.
- Fetter, Frank W. 1967. "A Historical Confusion in Bagehot's Lombard Street." *Economica*, New Series, 34, no. 133: 80-83.
- Friedman, Milton, and Rose D. Friedman. 1980. *Free to Choose: A Personal Statement*. 1st ed. New York: Harcourt Brace Jovanovich.
- Friedman, Milton, and Anna J. Schwartz. 1963. *A Monetary History of the United States, 1867-1960*. National bureau of economic research. Studies in Business Cycles. Vol. 12. Princeton: Princeton University Press.
- \_\_\_\_\_. 1970. *Monetary Statistics of The United States: Estimates, Sources, Methods*. Studies in Business Cycles. Vol. 20. New York: National Bureau of Economic Research, distributed by Columbia University Press.
- \_\_\_\_\_. 1986a. Has Government any Role in Money? *Journal of Monetary Economics*. January, v. 17, iss. 1, pp. 37-62.
- \_\_\_\_\_. 1986b. "The Failure of the Bank of United States: a Reappraisal." *Explorations in Economic History* 23 (2) (04): 199-204.
- Frydman, Carola, Eric Hilt, and Lily Y. Zhou. 2015. "Economic Effects of Runs on Early 'Shadow Banks': Trust Companies and the Impact of the Panic of 1907." *Journal of Political Economy*, August 2015, v. 123, iss. 4, 902-40.
- Gallatin, Albert. 1841. *Suggestions on the Banks and Currency of the Several United States, In Reference Principally to the Suspension of Specie Payments*. New York: Wiley and Putnam.
- Gandolfi, Arthur E. and James R. Lothian. 1977. "Did Monetary Forces Cause the Great Depression? A Review Essay." *Journal of Money, Credit and Banking* 9: 679-91.

- Gibbons, James. S. 1858. *The Banks of New York, Their Dealers, The Clearing House, And The Panic Of 1857: With A Financial Chart*. New York: D. Appleton & Co.
- Glasner, David. 1997. *Business Cycles and Depressions: an Encyclopedia*. New York and London: Garland Publishing, Inc.
- Gorton, Gary. 2010. *Slapped by the Invisible Hand: The Panic of 2007*. Financial management association survey and synthesis series. New York: Oxford University Press.
- \_\_\_\_\_, and Ellis W. Tallman. 2016. "Too Big to Fail Before the Fed." *The American Economic Review* 106, no. 5 (2016): 528-32.
- Haeger, John Denis. 1979. "Eastern Financiers and Institutional Change: The Origins of the New York Life Insurance and Trust Company and the Ohio Life Insurance and Trust Company." *The Journal of Economic History* 39 (1, the Tasks of Economic History) (Mar.): 259-273.
- Hamilton, David E. 1985. "The Causes of the Banking Panic of 1930: Another View." *The Journal of Southern History* 51 (4) (Nov.): 581-608.
- Hammond, Bray. 1948. "Banking In the Early West: Monopoly, Prohibition, and Laissez Faire." *The Journal of Economic History* 8 (1) (May): 1-25.
- Hautcoeur, Pierre-Cyrille; Riva, Angelo; and White, Eugene N. 2014. "Floating a 'Lifeboat': The Banque de France and the Crisis of 1889." *Journal of Monetary Economics* 65: 104–19.
- Helderman, Leonard C. 1931. *National and State Banks: A Study of their Origins*. Boston: Houghton Mifflin.
- Holmström, Bengt, and Jean Tirole. 1998. "Private and Public Supply of Liquidity." *Journal of Political Economy* 106, no. 1: 1-40.
- Huntington, C. C. 1915. *A History of Banking And Currency in Ohio Before the Civil War*. Columbus, Ohio: Heer.
- Jalil, Andrew J. 2015. "A New History of Banking Panics in the United States, 1825–1929: Construction and Implications." *American Economic Journal: Macroeconomics* 7, no. 3: 295-330.
- James, Frank Cyril. 1938. *The Growth of Chicago Banks*. 1st ed. New York: Harper & Brothers.
- Judy, Paul R. 2013. "A Chronicle of The History of A.G. Becker & Co., Insolvency of Herman Schaffner & Co." Available from <http://agbecker.us/>. Accessed 11/20/2014.
- Kennedy, Susan Estabrook. 1973. *The Banking Crisis of 1933*. University Press of Kentucky.
- Kemmerer, Edwin Walter, and United States. 1910. *Seasonal Variations in The Relative Demand for Money and Capital in The United States; A Statistical Study*. [United states] 61st cong., 2d sess. senate. doc. Vol. 588. National Monetary Commission. Washington: Govt. Print. Off.

- Kindleberger, Charles Poor. 1989. *Manias, Panics, and Crashes: A History of Financial Crises*. Rev ed. New York: Basic Books.
- King, Wilfred Thomas Cousins. 1972. *History of the London Discount Market. With an introduction by T. E. Gregory*. London: F. Cass.
- Knox, John Jay, Bradford Rhodes, and Elmer Haskell Youngman. 1903. *A History of Banking in the United States*. New York: B. Rhodes & Co.
- Korn, Bertram W. 1969. *The Early Jews of New Orleans*. American Jewish communal histories, no. 5. Waltham, Mass.: American Jewish Historical Society.
- Larson, Henrietta Melia. 1936. *Jay Cooke, Private Banker*. Harvard studies in business history. Vol. II. Cambridge, Mass.: Harvard University Press.
- Lawson, W. John. 1855. *The History of Banking: with a Comprehensive Account of the Origin, Rise, and Progress of the Banks of England, Ireland, and Scotland*. 2d ed., London: R. Bentley.
- Lebergott, Stanley. 1964. *Manpower in Economic growth; the American Record Since 1800*. Economics handbook series. New York: McGraw-Hill.
- Lepler, Jessica M. 2013. *The Many Panics of 1837: People, Politics and the Creation of a Transatlantic Financial Crisis*. New York: Cambridge University Press.
- Lucia, Joseph L. 1985. "The Failure of the Bank of United States: A Reappraisal." *Explorations in Economic History* 22 (4) (10): 402-16.
- Macleod, Henry Dunning. 1896. "A History of Banking in Great Britain: With a Historic Analysis of the Principles Governing Banking Currency, And Credit." In *A History of Banking in all the Leading Nations*, compiled by the editor of the *Journal of Commerce*. Vol. 2. New York: *The Journal of Commerce and Commercial Bulletin*, 1-337.
- McCulloch, Hugh. 1888. *Men and Measures of Half a Century; Sketches And Comments*. New York: C. Scribner's Sons.
- McFerrin, John Berry. 1969. *Caldwell and Company; a Southern Financial Empire*. Nashville, Tenn.: Vanderbilt University Press.
- McGrane, Reginald. 1950. *The Economic Development of the American Nation*. Boston: Ginn.
- Marriott, John. 2011. "Migrants and Sweaters, 1860–1914." In *Beyond the Tower: A History of East London*. Yale University Press, 211-242.
- Meerman, Jacob P. 1963. "The Climax of the Bank War: Biddle's Contraction, 1833-34." *Journal of Political Economy* 71, no. 4: 378-88.
- Mill, John Stuart. 1909 [1870]. *Principles of Political Economy with some of their Applications to Social Philosophy*, ed. William James Ashley. London: Longmans, Green and Co., 1909, 7th ed.

- Minsky, Hyman P. 1972. "An Evaluation of Recent Monetary Policy." *Nebraska Journal of Economics and Business* 11, no. 4: 37-56.
- Miron, Jeffrey A. 1986. Financial Panics, the Seasonality of the Nominal Interest Rate, and the Founding of the Fed. *The American Economic Review* 76 (1) (Mar.): 125-40.
- Mitchell, Wesley C. 1941. *Business Cycles and their Causes*. A new edition of Mitchell's Business Cycles: part III ed. Berkeley and Los Angeles: University of California Press.
- Mitchener, Kris James and Gary Richardson. 2013. "Shadowy Banks and Financial Contagion during the Great Depression: A Retrospective on Friedman and Schwartz." *American Economic Review* 103, no. 3: 73-78.
- Mixon, Scott. 2008. "The Crisis of 1873: Perspectives from Multiple Asset Classes." *The Journal of Economic History* 68, no. 3 (2008): 722-57.
- Moen, Jon R. and Ellis W. Tallman. 1992. "The Bank Panic of 1907: The Role of Trust Companies." *The Journal of Economic History* 52 (3) (Sep.): 611-30.
- \_\_\_\_\_. 2000. "Clearinghouse Membership and Deposit Contraction during the Panic Of 1907." *The Journal of Economic History* 60 (1) (Mar.): 145-63.
- Myers, Margaret G. 1970. *A Financial History of the United States*. New York: Columbia University Press.
- Neal, Larry. 1971. "Trust Companies and Financial Innovation, 1897-1914." *The Business History Review* 45, no. 1: 35-51.
- \_\_\_\_\_. 1998. "The Financial Crisis of 1825 and the Restructuring of the British Financial System." *Federal Reserve Bank of St. Louis, Review*. May/June, v. 80, iss. 3, 53-76.
- Noyes, Alexander Dana. 1909. *Forty Years of American Finance: a Short Financial History of the Government and People of the United States Since the Civil War, 1865-1907*. New York: G.P. Putnam's sons.
- Oberholtzer, Ellis Paxson. 1907. *Jay Cooke, Financier of the Civil War*. Philadelphia: G.W. Jacobs.
- Officer, Lawrence H. and Samuel H. Williamson. 2016. "Five Ways to Compute the Relative Value of a UK Pound Amount, 1270 to Present," [www.measuringworth.com/ukcompare/](http://www.measuringworth.com/ukcompare/)
- O'Brien, Anthony Patrick. 1992. "The Failure of the Bank of the United States: A Defense Of Joseph Lucia: A Note." *Journal of Money, Credit, and Banking* 24 (3) (08): 374-84.
- \_\_\_\_\_. and Trescott Paul B. 1992. "The Failure of the Bank of United States, 1930: Note." *Journal of Money, Credit and Banking* 24.3: 384-99.
- Ó Gráda, Cormac, and Eugene N. White. 2003. "The Panics of 1854 and 1857: A View From The Emigrant Industrial Savings Bank." *The Journal of Economic History* 63 (1) (Mar.): 213-40.

- Osthaus, Carl R. 1976. *Freedmen, Philanthropy and Fraud: A History of the Freedman's Savings Bank*. Urbana, IL: University of Illinois Press.
- Patterson, R. H. 1871. "On the Rate of Interest, and the Effects of a High Bank-Rate during Commercial and Monetary Crises." *Journal of the Statistical Society of London* 34.3: 334-56.
- Paganelli, Maria Pia. 2006. "Vanity And The Daedalian Wings of Paper Money in Adam Smith." In *New voices on Adam Smith.*, eds. Eric Schlieser, Leonidas Montes. London and New York: Routledge.
- Perkins, Edwin J. 1984. "Langdon Cheves and the Panic of 1819: A Reassessment." *The Journal of Economic History* 44 (2, the tasks of economic history) (Jun.): 455-461.
- Postel-Vinay, Natacha. 2015. "What caused Chicago Bank Failures in the Great Depression? A Look at the 1920s." Cambridge Working Papers in Economic and Social History. Working Paper No. 22-2015.
- Redlich, Fritz. 1968. *The Molding of American Banking: Men and Ideas*. New York: Johnson Reprint Corp.
- Reinhart, Carmen M., and Kenneth S. Rogoff. 2009. *This Time is Different: Eight Centuries of Financial Folly*. Princeton and Oxford: Princeton University Press.
- Riddiough, Timothy J., and Howard E. Thompson. 2012. "Déjà Vu All Over Again: Agency, Uncertainty, Leverage and the Panic Of 1857." Hong Kong Institute for Monetary Research. Working Paper No. 10/2012.
- Rockoff, Hugh. 2018. "It is Always the Shadow Banks: The Regulatory Status of the Banks that Failed and Ignited America's Greatest Financial Panics" In *Coping with Financial Crises: Some Lessons from Economic History*, Hugh Rockoff and Isao Suto eds., Springer Nature, 77-106.
- \_\_\_\_\_. 2011. "Upon Daedalian Wings of Paper Money: Adam Smith and the Crisis Of 1772." In *The Adam Smith Review*, eds. Fonna Forman-Barzilai, volume 6, pp. 237-268.
- \_\_\_\_\_. 1986. "Walter Bagehot and the Theory of Central Banking." In *Financial Crises and the World Banking System*, Eds. Forrest H. Capie and Geoffrey E. Wood, 160–180. New York: Macmillan Press, Ltd.
- Rousseau, Peter L. 2002. "Jacksonian Monetary Policy, Specie Flows, and the Panic of 1837." *The Journal of Economic History* 62 (2) (Jun.): 457-88.
- Rowe, John J. 1912. "Banks and Bankers." In *Cincinnati the Queen City*, ed. Charles Frederic Goss. Vol. 2, 171-214.
- Sakolski, Aaron M. 1932. *The Great American Land Bubble: The Amazing Story of Land-Grabbing, Speculations and Booms from Colonial Days to the Present Time*. New York: Harper and Brothers Publishers.

- Schularick, Moritz, and Alan M. Taylor. 2012. "Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008." *American Economic Review* 102 (2) (04): 1029-61.
- Schwartz, Anna J. 1987. "Real and Pseudo Financial Crises." In *Money in Historical Perspective*, eds. Michael D. Bordo and Milton Friedman. Chicago: University of Chicago Press, 271-288.
- Scoville, Joseph Alfred. 1870. *The Old Merchants of New York City: by Walter Barrett, Clerk* [pseudonym]. New York: M. Doolady.
- Sherman, John. 1895. *John Sherman's Recollections of Forty years in the House, Senate and Cabinet: an Autobiography*. Chicago: Werner.
- Shiller, Robert J. 2017. "Narrative Economics." *American Economic Review* 107 (4): 967–1004.
- Shin, Hyun Song. 2009. "Reflections on Northern Rock: The Bank Run that Heralded the Global Financial Crisis." *The Journal of Economic Perspectives* 23 (1) (Winter): 101-20.
- Shultz, William J. and M.R. Caine. 1937. *Financial Development of the United States*. New York, NY: Prentice-Hall Inc.
- Schularick Moritz, and Alan M. Taylor. 2012. Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008. *American Economic Review*;102 (2):1029-1061.
- Smith, Adam. 1976 [1776]. *An Inquiry into the Nature and Causes of the Wealth of Nations*. The Glasgow edition of the works and correspondence of Adam Smith, eds. R. H. Campbell, Andrew S. Skinner and William B. Todd. Vol. 2. Oxford: Clarendon Press.
- Smith, Alice E. 1966. *George Smith's Money; a Scottish Investor in America*. Madison: State Historical Society of Wisconsin.
- Smith, Walter Buckingham, and Arthur Harrison Cole. 1935. *Fluctuations in American business, 1790-1860*. Harvard economic studies. Cambridge: Harvard University Press.
- Sobel, Robert. 1988. *Panic on Wall Street: A Classic History of America's Financial Disasters with a New Exploration of the Crash of 1987*. New York: Truman Talley Books/Dutton.
- Sorkin, Andrew Ross. 2010. *Too Big to Fail: The Inside Story of How Wall Street and Washington Fought to Save the Financial System--and Themselves*. East Rutherford: Penguin Publishing Group.
- Spiegelman, Mortimer. 1948. "The Failure of Ohio Life Insurance and Trust Company, 1857." *Ohio State Archaeological and Historical Quarterly* 57: 247-65.
- Sprague, O. M. W. 1910. *History of Crises under the National Banking System*. U. S. 61st cong., 2d sess. senate. doc. 538. Washington: Govt. Print. Off.

- Studenski, Paul, and Herman Edward Krooss. 1963. *Financial History of the United States: Fiscal, Monetary, Banking, and Tariff, Including Financial Administration and State and Local Finance*. 2d ed. New York: McGraw-Hill.
- Sylla, Richard. 1976. "Forgotten Men of Money: Private Bankers in Early U.S. History." *The Journal of Economic History* 36 (1, the Tasks of Economic History) (Mar.): 173-88.
- Tallman, Ellis W., and Jon R. Moen. 1995. "Private Sector Responses to the Panic of 1907: A Comparison of New York and Chicago." *Federal Reserve Bank of Atlanta Economic Review* 80 (2) (March): 1-9.
- \_\_\_\_\_. 1990. "Lessons from the Panic of 1907." *Federal Reserve Bank of Atlanta Economic Review* 75 (3) (May): 2-13.
- Temin, Peter. 1976. *Did Monetary Forces Cause the Great Depression?* 1st ed. New York: Norton.
- \_\_\_\_\_. 1975. "The panic of 1857." *Intermountain Economic Review* 6 (1) (Spring): 1-12.
- \_\_\_\_\_. 1969. *The Jacksonian Economy*. The Norton essays in American history. 1st ed. New York: Norton.
- Thorp, Willard Long, Hildegard E. Thorp, and Wesley C. Mitchell. 1926. *Business Annals*. New York: National bureau of economic research, Inc.
- Tooze, J. Adam. 2018. *Crashed: How a Decade of Financial Crises Changed the World*. New York, New York: Viking, an Imprint of Penguin Random House LLC, 2018.
- Trescott, Paul B. 1992. "The Failure of the Bank of United States, 1930: A Rejoinder." *Journal of Money, Credit, and Banking* 24 (3) (08): 384-99.
- Wallis, John Joseph. 2001. "What Caused the Crisis of 1839?" NBER working paper series on historical factors in long run growth. NBER Historical Working Paper No. 133. Cambridge, MA.
- Walton, Gary and Hugh Rockoff. 2014. *History of the American Economy*. 12<sup>th</sup> ed. Mason, Ohio: South-Western, Cengage Learning.
- Ward, Geoffrey C. 2012. *A Disposition to be Rich: How a Small Town Pastor's Son Ruined an American President, Brought on a Wall Street Crash, and Made Himself the Best-Hated Man in the United States*. New York: Alfred A. Knopf.
- Weber, Warren E. 2014. "Pre-1861 United States Banking Information." The Federal Reserve Bank of Minnesota.  
[http://www.minneapolisfed.org/research/economic\\_research/bankarchive/](http://www.minneapolisfed.org/research/economic_research/bankarchive/).
- Werner, Morris Robert. 2009 [1933]. *Little Napoleons and Dummy Directors: Being the Narrative of the Bank of United States*. Yardley PA: Westholme Publishing, LLC.

- White, Eugene N. 1984. "A Reinterpretation of the Banking Crisis of 1930." *The Journal of Economic History* 44 (1) (Mar.): 119-38.
- \_\_\_\_\_. 2016. "How to Prevent a Banking Panic: The Barings Crisis of 1890 Revisited." In Federal Reserve System Conference on Economic and Financial History.
- Wicker, Elmus. 2000. *Banking Panics of the Gilded Age*. Studies in macroeconomic history. Cambridge, UK; New York: Cambridge University Press.
- \_\_\_\_\_. 1996. *The Banking Panics of the Great Depression*. New York: Cambridge University Press.
- \_\_\_\_\_. 1980. "A Reconsideration of the Causes of the Banking Panic of 1930." *The Journal of Economic History* 40 (3) (Sep.): 571-83.
- Zuckoff, Mitchell. 2005. *Ponzi's Scheme: The True Story of a Financial Legend*. New York: Random House.