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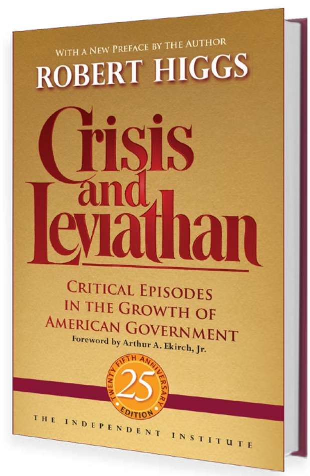

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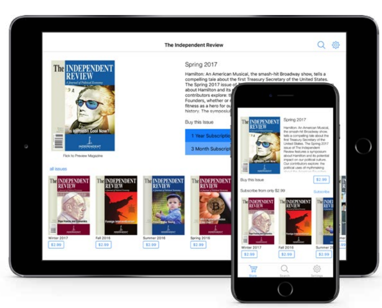

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The Origins of the National Banking System

The Chase–Cooke Connection and the New York City Banks

PATRICK NEWMAN

The National Banking System (1863–1913) was the monetary structure of the United States before the founding of the Federal Reserve in 1913 and was created by the National Banking Acts, originally called the National Currency Acts, of 1863 and 1864 in the midst of the Civil War. It significantly changed the country's financial landscape compared to the previous era of "free banking" (1837–61). Most importantly, it standardized the country's currency by replacing state bank notes with national bank notes and created a multitiered credit structure where reserves were ultimately concentrated in a handful of bankers' banks. It also created a comptroller of the currency who had the power to charter and regulate the new national banks and established federal management of national banks' reserve requirements (Timberlake 1993, 86–87; Rockoff 2000, 651–52; White 2013, 8–10). These new changes to the country's monetary and banking environment created a quasi-centralized banking system wherein reserves were concentrated in a few banks, which in many ways portended the changes brought about by the Federal Reserve Act of 1913. However, less frequently described are the unique set of circumstances and the particular motivations of individuals that allowed for the

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creation and survival of the system during the Civil War. An account that develops the motives behind the forces of both the 1863 and 1864 acts and integrates them into a coherent narrative has not yet been explicitly described.

Although Secretary of the Treasury Salmon P. Chase is generally credited with proposing the system to Congress in 1863 and being one of its most dedicated supporters, Chase would not have had nearly the success he did if it were not for his financial and familial connections with Philadelphia investment banker Jay Cooke of Cooke & Co. Jay and his helpful brother, Washington lobbyist Henry Cooke, were indispensable in getting the act passed by means of their crucial lobbying to Congress in the winter of 1863. They did so not merely out of patriotic love for their country and desire to change the country's financial system but also out of the wish to gain financial benefits. In particular, Jay Cooke, who became the main seller of Union bonds in 1862 through his connections with Chase, believed he could more easily sell the federal debt under the new monetary arrangement because national banks had to purchase federal bonds if they wanted to issue national bank notes.

Although Jay Cooke enthusiastically sponsored the 1863 act, many others, including the prestigious banks in New York City, did not, and it was only through Cooke's organizing of several national banks that the system was able to survive in its formative months. These prestigious banks were against it mainly because of their earlier troubles with Secretary Chase over financing the war, they did not see the benefits of issuing national bank notes, and, most importantly, they would lose a significant portion of their business by no longer acting as bankers' banks for banks in other large cities, who before the act was passed were allowed to keep part of their reserves in the form of bank deposits in New York City under existing state banking laws. Therefore, in order for the structure to obtain nationwide acceptance, it had to be favorable in New York City, and, as a result, an amendment to the act was crafted in 1864 to motivate them to join. The most important enticement allowed national banks in other large cities to count as part of their reserves any deposits they held at national banks in New York City, which created the familiar three-tiered banking structure of country banks in small cities, reserve city banks in large cities, and central-reserve city banks in New York City. In the end, reserves were concentrated mostly in newly formed bankers' banks in New York City, which partially led to the creation of an unstable banking system.

The Chase–Cooke connection and Cooke's motivation behind promoting the 1863 act have been previously described in varying detail by economic historians, including Henrietta Larson (1936), Robert Sharkey ([1959] 1967), Bray Hammond (1970), Heather Richardson (1997), Murray Rothbard ([1982] 2005), and Samuel DeCanio (2015). However, these authors do not explicitly separate the 1863 act from the 1864 act and the primary motivation behind the latter to entice New York City banks to join the National Banking System. Only David Gische (1979) has done so, with later complementary analyses by John James and David Weiman (2011) as well as by Matthew Jaremski (2013), who studies primarily the system's effects on the country's bank credit structure. And only Gische's and James and Weiman's works very briefly mention the Chase–Cooke connection. The purpose of this paper is to provide an in-depth narrative of the origins and special-interest motivations behind the National Banking Act, its amendment in 1864, and its creation of a quasi-centralized banking system centered in New York City national banks.

I begin by discussing how Jay Cooke became the main subscriber of Union bonds through his personal link with Secretary Chase and how this important connection was formed. Next I examine the passage of the 1863 act and explain how the Cookes were crucial to both its passage and its early implementation. Then I discuss the 1864 amendment and show how its main motivation was to entice New York City banks to join the system. I close by showing how this system created a new group of elite banks who specialized in managing other national banks' deposits.

The Civil War and Secretary Chase's Bond Drives: The Rise of Jay Cooke

Contrary to military opinions and unfortunately for the American public, the American Civil War from April 12, 1861, to May 9, 1865, was a long and costly war. The burden of trying to finance the conflict would fall primarily on the newly appointed U.S. secretary of the treasury, Salmon P. Chase. A hard-money Jacksonian Democrat from Ohio, Chase switched to the Republican Party due to the slavery issue. He had previously served as a U.S senator from 1849 to 1855 before becoming governor of Ohio until 1860, when he briefly returned to the Senate until he was appointed secretary of the treasury on March 6, 1861 (Gische 1979, 32; Burch 1981, 20; James and Weiman 2011, 343). With tax revenue not enough and the printing of unbacked money not yet politically feasible, Chase was forced to finance the war by selling bonds.

Chase had problems, however, selling the necessary amount of bonds to conservative bankers in major financial centers in 1861. Conflict arose between him and the bankers when he refused to sell the bonds below par because of the high interest rate and the damage it would bring to the government's credit, whereas the bankers wanted to buy them at the prevailing market price. The conflict escalated further when in August 1861 Chase negotiated a $150 million bond loan from leading banks in New York City, Philadelphia, and Boston, with the majority bought by New York City. The banks agreed to buy the bonds in three installments of $50 million each in August, October, and December. However, Chase, following the rules of the hard-money Independent Treasury Act of 1846, wanted the banks to pay for the bonds in specie and to boost confidence in the government and its war effort, but the banks wanted to pay in bank credit. The banks eventually complied: after the first round of bond sales, the government obtained the specie it wanted, and the banks recovered their specie when they sold the bonds. However, after the third installment was bought in November, ahead of schedule, the price of the bonds sharply fell. The banks, not eager to sell bonds at what they perceived to be lower prices than they could obtain in the future, did not sell them to the public and consequently did not recoup specie reserves. Word soon reached the public, who panicked upon hearing that the banks did not have enough specie to satisfy a sufficient amount of withdrawals. Runs occurred on the banks in late December, and the New York City bankers suspended specie payments, with the rest of the banks in the country and the Treasury following suit. The suspension would take the United States off the gold standard until 1879 (Larson 1936, 110–13; Kindahl 1961, 31; Gische 1979, 32–33; Bensel 1990, 244–47).

On January 11, 1862, the major New York City bankers met with Chase and other prominent government officials and pleaded for a suspension of the Independent Treasury Act, the use of state banks as public depositories for government specie, acceptance of the sale of bonds below par, and heavier taxation to pay for the burgeoning government debt. When Chase adamantly refused to do these things, the New York bankers ended their cooperation, and Chase had to turn to other sources to finance the war. One of these sources was the printing press, and on February 25 the Legal Tender Act was passed, which allowed the issue of $150 million in paper-money greenbacks and further issues later on, totaling $449 million in greenbacks (Gische 1979, 33–34; Friedman and Schwartz 1993, 24).[1] However, the majority of the war was still financed by bond issues, and with this method of financing the prominent wartime activities of Jay Cooke began.

Jay Cooke was a Philadelphia investment banker who had family connections with Secretary Chase. Cooke's father, Eleutheros, served in both the Ohio and U.S. House of Representatives and shared speaking platforms with Chase, and his brother, Henry, was the editor and owner of the *Ohio State Journal,* a major Republican newspaper that brought Henry into close contact with Chase. Chase befriended Henry Cooke and appreciated the newspaper for the support it had given him and the future support it might give him in his various political endeavors, including the Republican nomination for president in 1860 (which he lost to Lincoln), an office that he would desperately try to achieve throughout his life. The Cookes, especially Henry, backed Chase in his political endeavors, including lobbying to get him the Treasury secretary position, and according to some estimates Jay spent close to $100,000 on Chase's political career by 1864. Through the *Ohio State Journal,* Henry also befriended Senator John Sherman of Ohio, and the Cookes supported him both politically and financially in his successful bid to take Chase's Senate seat (Oberholtzer 1907, 93–94, 128–31; Larson 1936, 9; Bensel 1990, 247; Burch 1981, 52; Richardson 1997, 37).

Jay Cooke and his brother-in-law opened Jay Cooke & Co. in Philadelphia on January 1, 1861. Once Chase gained his position as Treasury secretary, the Cookes wanted to reap a return on their investment with the new political changes in

1. Although the conservative bankers were hard-money bankers and opposed the inflationary greenbacks, many other bankers, including those in New York state, warmed up to the greenbacks because they were legal tender and could serve as bank reserves, which enabled the banks to make more loans and expand the money supply (Hammond 1970, 245–46, 249–50; Rothbard [1982] 2005, 130).

Washington (Oberholtzer 1907, 131–32; Larson 1936, 96, 101). On March 1, Jay wrote to Henry, who was in Washington to report on the inauguration for the *Ohio State Journal,* "I see Chase is in the [Treasury], & now what is to be done—can't you sell out the papers & open a Banking house in [Washington] & be something respectable—or at least can't you inaugurate something whereby we can all *safely* make some Cash?" (qtd. in Oberholtzer 1907, 132, and Larson 1936, 102–3).

In a letter written on March 25, the Cooke patriarch Eleutheros encouraged Jay to press his brother to take advantage of their newly established connections in Washington: "By the way, I took up my pen principally to say, that [Henry's] plan in getting Chase into the Cabinet & Sherman into the Senate is accomplished, and that now is the time for making money, by honest contracts out of the [government]. In perfecting loans—& various other agencies—the door is open to make up all your losses. If [Henry doesn't] avail himself of the hard earned favor of the [administration], he deserves poverty" (qtd. in Larson 1936, 103).

As a consequence, when Jay Cooke wrote to Chase in July 1861 with a plan to form a banking house in Washington that could help the Treasury finance the war, he frankly mentioned it as one of "those natural advantages that would legitimately and honestly flow towards us from your personal friendship" (qtd. in Oberholtzer 1907, 143–44). At a time when the New York City bankers were hostile to Chase's financial plans, Jay Cooke's friendliness to Chase grew as he counseled Chase with patriotic advice, entertained him and his daughters at the Cooke home, bought him a carriage (which Chase later turned down), and privately invested money for him. Their friendship would last throughout both of their careers, and Jay Cooke's laudatory biographer remarks that "the personal relations of the Chases and Cookes were unusually friendly and warm" (Oberholtzer 1907, 366). During this time, Henry, who acted as Jay's private informant and lobbyist in Washington, worked hard to strengthen his connections with Senator Sherman and other officials (Oberholtzer 1907, 153–54, 180–84, 208–10; Larson 1936, 104–8, 114; Richardson 1997, 51).

Cooke & Co. did eventually establish a Washington branch in February 1862, with Henry Cooke managing the actual office. The office itself was opposite the Treasury building, and Henry often went to that building and to Chase's house to get valuable information he could provide to Jay. Unsurprisingly, Chase and other government officials held accounts at the Cookes' bank. Cooke & Co. was an interloper in the business community, and Jay Cooke was imbibed with a great patriotism and eagerness to help in the war effort, so in 1861 and early 1862, while Chase was having trouble with the New York City financial elites, Cooke helped him sell war bonds. The government continued to have financing problems and difficulty in selling the bonds at par on their own, but Jay's ability to sell them and his personal connection led Chase to make him the "special agent" for subscribing the sale of the "5-20s" in October 1862. The 5-20s were 6 percent interest-bearing bonds with a maturity of twenty years that could also be redeemed by the government in gold after five years. They were authorized in February 1862 for a total amount of $500 million but only a dismal $2.5 million had been sold by September 1862 (Oberholtzer 1907, 187–88, 214, 218, 239; Larson 1936, 103–04, 110, 113–14, 116–18; Kirkland 1961, 20; Hammond 1970, 289; Burch 1981, 52; Richardson 1997, 50).

Cooke proved exceptionally capable in selling the 5-20s and other government debt and consequently innovated government finance. Normally, such as during the Mexican War, the government marketed its loans through competitive bids to conservative bankers and was its own broker. However, this approach didn't work during the Civil War because at the size of debt the government wanted to sell, the banks would sell only to other banks and also wanted an interest rate that was too high for the government's liking. Cooke ingeniously thought instead to market the bonds to the mass public through various patriotic appeals, tapping into a massive untouched supply of savings that would be able to absorb the government debt at reasonable interest rates through the employment of newspaper advertisements and 2,500 agents and traveling salesmen (Oberholtzer 1907, 232; Larson 1936, 100–101, 105, 119–30; Kirkland 1961, 21).

Overall, the total reached in the 5-20 sales, which lasted until January 1, 1864, was $510,776,450, and Jay Cooke was responsible for selling $361,952,950 worth, or 71 percent (Larson 1936, 148).[2] In 1864, after Chase resigned as secretary of the treasury,[3] Cooke lost his contract due to previous congressional charges of corruption. But difficulties with financing the war forced the government to utilize him once again, and from February 1 to July 28, 1865, he sold $700 million worth of the government's 7-30s, or three-year bonds that paid 7.30 percent interest. Cooke's skill is readily seen when it is noted that before the government recruited him again, it was able to sell only $130 million worth of the 7-30s from August 15, 1864, to February 1, 1865, so Cooke's total contribution amounted to 84 percent of the $830 million of the bonds sold (Oberholtzer 1907, 572; Larson 1936, 148, 152, 160–66, 169–70). Although Cooke was instrumental with other sales, the totals earned from the sales of the 5-20s and 7-30s were the biggest of Cooke's bond drives during the war and in themselves were significant portions of the total U.S debt issued, accounting for 51.8 percent of the $2,587,347,000 increase in debt issued from fiscal year 1861 to fiscal year 1865 (Wallis 2006).

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2. The difference between Cooke's sales and the total sales is that Cooke technically did not have exclusive control over the sale of bonds; the U.S Treasury and designated depositories also were allowed to receive subscriptions (Larson 1936, 120). But it is not a stretch to believe that even when the government sold bonds, it was aided by Cooke's massive advertising campaign.

3. Chase's resignation was due to the controversy over his interest in obtaining the Republican nomination for president in 1864, for which the Cookes partly provided funding. Chase then spent the rest of his political career as a Supreme Court justice, a position that he held from December 1864 until his death in 1873 and that the Cookes personally took credit for securing. Despite this position, in 1865 Chase apparently thought it was reasonable to ask Jay Cooke if he could be made a silent partner of Cooke & Co. and later asked in 1869 if he could be placed on the board of directors of the then Cooke-controlled Northern Pacific Railway. Cooke balked at these requests and skillfully declined them (Oberholtzer 1907, 360–66, 463–64; Burch 1981, 64; Blue 1987, 142–43, 235–36).

Although Jay Cooke did not make the astronomical income his critics in Congress charged him with making, both he and Cooke & Co. did profit during the war. From Cooke & Co.'s establishment in 1861 to the end of 1865, the Philadelphia and Washington houses made a combined $1,681,572. Although Cooke's commissions on the sales of 5-20s were quite modest, and other banks were also profiting during this time, Cooke & Co.'s biggest gain was unquestionably the boost to his reputation as he became one of the undisputed financial titans and bankers of the North and influential in future Republican administrations.[4] The postwar years were very profitable, and Jay Cooke created a New York branch of the company in 1866 and eventually a London branch by the time he got involved in the railroad business (Larson 1936, 151, 177, 181–84, 200, 227, 459; Burch 1981, 59). The approximately $100,000 he spent on Chase's political career and other friendly gestures turned out to be quite small but quite fruitful because this personal connection allowed Cooke to become the main subscriber to the bonds and led to both sizable pecuniary gains and influence (Rothbard [1982] 2005, 134). Cooke had proved to be indispensable for financing the war and making Chase's tenure as treasurer successful, and he completely revolutionized the way bonds were marketed. Without Cooke's help, Chase would most likely not have been able to sell the government's debt at the rates he wanted. However, Cooke would also prove to be indispensable for Chase's banking legislation, which would have a far greater impact in U.S history, because his peculiar position as the dominant agent for selling bonds demanded that he support the National Banking Act.

The National Banking Act of 1863: Convincing Senator Sherman

Around the time when Secretary Chase and Jay Cooke strengthened their relationship and Cooke was the dominant subscriber for the government's bonds, Chase had concurrently been trying to press a new banking system through Congress. The main thrust of Chase's proposal in his report to Congress in December 1861, a plan that he had wanted to achieve since he was governor of Ohio in 1856, was an enlargement of states' so-called free-banking laws to put the country on a uniform currency, wherein state banks backed their notes with federal bonds (instead of with state bonds), an attribute that Chase noted would also help finance the war. However, the suspension of specie payments in late December 1861 and the negative attitude that the conservative New York City bankers displayed in their meeting with Chase in January 1862 buried the plan. In December 1862, Chase tried again in his annual report to Congress. This time he envisioned an entirely new system of "national banks" that would be the only institutions allowed to issue national bank notes. The administration's bill was

4. One must also factor in the various investments Cooke made into the new National Banking System during the Civil War, which is discussed more fully later in this essay.

introduced in Congress on January 7, 1863, and although it had some friends and received President Abraham Lincoln's blessing, it fell flat (Sharkey [1959] 1967, 221–25; Gische 1979, 35–37).

So it was at this time that Chase enlisted the aid of Jay Cooke to lobby the bill through Congress. Cooke was originally unsupportive of the plan, not because he did not like it but because he did not want to anger the state banks that he was working with. However, at Chase's pleading, Jay and Henry signed on. Although Jay, like Chase, perceived there to be grave defects in the contemporary state banking system, an additional motivation for him was the enormous demand the national bank plan would generate for the bonds he had to sell through the bond-backing note-issue requirement. Clearly, he had a strong self-interest in promoting the legislation (Oberholtzer 1907, 337; Larson 1936, 138–39; Hammond 1970, 289; Gische 1979, 37; Rothbard [1982] 2005, 145).[5]

The Cookes' primary task was to convince Senator Sherman, who sat on the powerful Finance Committee. The careful chronology of the next several weeks bears emphasizing to highlight the importance of both the Cookes' and Sherman's influence. On January 5, 1863, Sherman had introduced an unrelated bill in the Senate to tax state bank notes, which he explained to the Senate on January 8. In his speech, he made no mention of the national banking system proposed only a day earlier and only expressed his desire to replace state bank notes with Treasury notes (Hammond 1970, 321). On Chase's urging, Henry Cooke privately visited Sherman on January 22 to persuade him of the proposed system's strengths, and then he wrote to his brother on January 23 "in the strictest confidence": "[Chase] expressed the greatest anxiety that Sherman should take hold of his bank bill and asked me to use my influence with him to do so. I had an interview with [Sherman] last evening and again to-day. Sherman has not positively promised to champion the bill, but from his talk to-day I think he will do it" (qtd. in Oberholtzer 1907, 332–33).

The Cookes' arguments evidently won Sherman over, judging by his subsequent actions and especially by the contents of an undated letter to his wife, where he admitted that Chase had won him over through the Cookes' appeals. On January 26, he introduced a national bank bill that was in substance very similar to what Chase had proposed and that left the Senate Finance Committee a week later. On February 9 and 10, Sherman supported the bill in the Senate using a range of patriotic and nationalistic appeals and stated that the public demanded adoption of the act. He skillfully emphasized that the new banking system would promote national unity, whereas the old system promoted state rights and secession, effective points considering that the country was in the midst of a civil war.

On January 28, January 31, February 2, and February 3, letters to the *New York Times* by someone identified as "S" praised the new bank bill and were written in a tone

5. Cooke himself recounted in his memoirs that he realized the new banking system would "create and make a market for a large amount of our government bonds" (qtd. in Oberholtzer 1907, 331–32).

similar to Sherman's. Chase also personally spoke with the editor of the *New York Tribune* to vigorously support the bill. The Cooke brothers concurrently mounted a serious propaganda blitz in the newspapers where they advertised the sale of the 5-20 bonds, praising the new national bank bill and creating the illusion of its public appeal, and worked hard personally lobbying congressmen as well as giving their offices the relevant newspapers daily to demonstrate what seemed like public support for the bill (Oberholtzer 1907, 331–32; Larson 1936, 138; Sharkey [1959] 1967, 225; Hammond 1970, 321–35; Richardson 1997, 86–88; DeCanio 2015, 50–52). On February 11, Henry wrote to Jay that the newspaper "'medicine' [was] having its [desired] effect" and that opponents of the bill were being overwhelmed by the growing support for the legislation and saying to themselves, "'What a . . . change in popular sentiment! Everybody seems to be going in for the Bank bill—I guess we'll have to go [for] it!'" (qtd. in DeCanio 2015, 51–52). In reality, though, as both Cooke and Chase's correspondents informed them, the public was not interested in or informed about government finance or the banking question (DeCanio 2015, 51–52). On February 12, when Sherman's support appeared secured and his efforts successful, Henry wrote to Jay: "It will be a great triumph, Jay, and one to which we have contributed more than any other living men. The bank bill had been repudiated by the House and was without a sponsor in the Senate, and was thus virtually dead and buried when I induced Sherman to take hold of it, and we went to work with the newspapers. I am very sure that [Chase] appreciates our efforts and knows (though he can never know fully) the value and efficiency of our services" (qtd. in Oberholtzer 1907, 333).

Congressmen were persuaded by Sherman's arguments and supported the bill due to what Chase described as its apparent wartime necessity. The bill was discussed and then voted in the Senate on February 12 and passed by the slim majority of 23 to 21;[6] it then got out on the House floor on February 19 and passed on February 20 by 78 to 64. President Lincoln signed the act on February 25. The Cookes had succeeded in convincing Senator Sherman and pushing the bill through Congress and were absolutely crucial in getting the legislation enacted. Without the Cookes' involvement, Senator Sherman would most likely have not supported the bill. And without the Cookes providing pro–national bank articles to congressmen and conjuring up fake public sentiment in support of the system, the bill would have not gotten close to the numbers it needed for passage (Oberholtzer 1907, 333; Davis 1910, 79; Sharkey [1959] 1967, 225–26, 245; Hammond 1970, 328–32; Gische 1979, 37). Jay Cooke was once again crucial for Chase's financial policies, and on February 13 Chase wrote to Cooke, "Your services in behalf of the Uniform Currency bill are fully appreciated by me: except that appreciation the consciousness of usefulness to your country must be your sole reward" (qtd. in Larson 1936, 139). Chase was incorrect: personal gratitude

6. The vote in favor of the act succeeded only because one senator switched his vote after personal appeals by Chase and Sherman (Sharkey [1959] 1967, 225; Gische 1979, 38).

was not the only way Cooke benefited. He would make money not only by selling bonds to national banks but also by investing in them and setting up new ones.

The National Banking Act of 1863 introduced a number of new changes. It created the Office of the Comptroller of the Currency to organize and regulate the national banks and stipulated a minimum capital requirement of $50,000 (or at least $100,000 in cities with more than ten thousand people), with a minimum of 33 percent of the paid-in capital in the form of U.S. bonds deposited at the Treasury. Based on the amount of bonds deposited, national banks could issue up to 90 percent of the current market value (up to the par value) of the bonds in the form of national bank notes they received from the Treasury. Equally important was that this bond-backing requirement also applied to state banks, which could issue national bank notes up to 80 percent of the current market value of the bonds if they had at least 50 percent of their capital in the form of U.S. bonds.[7] The total amount of national bank notes was limited at $300 million, a provision attributable to Senator Sherman; banks were required to redeem their notes at par, and the notes were considered legal tender. In addition, the secretary of the treasury could make any national bank a depository of public funds.

One of the most important provisions of the act that would become a great bone of contention was that each bank had to keep lawful money reserves (specie and greenbacks) of 25 percent. Although most banks could keep up to 60 percent of their reserves in the form of balances at national banks in Boston, Providence, New York City, Philadelphia, Baltimore, Cincinnati, Chicago, St. Louis, and New Orleans, all banks in these cities had to keep the full amount in their vaults. Importantly, this meant that banks that were located in the major cities yet had existing balances in New York City could not count the latter balances toward meeting their reserves, a crucial downside that is explored later in this essay (Sharkey [1959] 1967, 227–28; Gische 1979, 38–39).

At the beginning of this change in the U.S. banking system, Jay Cooke was already involved in setting up banks. He took over the First National Bank of Philadelphia, which was chartered on June 20, 1863, and was the first bank to be incorporated in the new system. Initially with a capital of $150,000, it had $500,000 by the time it was reorganized, with 90 percent of the capital being taken by the partners of Cooke & Co. and E. W. Clark and Company, where Jay Cooke was a member of the board of directors and the second-largest shareholder. The bank's capital was soon raised to $1 million by January 1864, and by December 1863 it had purchased $650,000 of the 5-20 bonds. Jay and Henry were also major stockholders of the First National Bank of Washington, which was chartered on July 16 with a capital of $500,000 (members of the Cooke banking houses put in $485,000). Henry Cooke was its president and on the

7. This provision was due to the Harris amendment to the 1863 act, which allowed existing state banks to issue national bank notes without having to convert. This amendment was described as necessary for the bill's survival because it reduced the perceived threat many state banks regarded as coming from the National Banking System (Gische 1979, 37–39).

board of directors, and it became Jay's personal bank. It was apparently profitable: in May 1864, it paid a 5 percent gold dividend on the first half-year's business, a 6 percent gold dividend in November, and a 10 percent gold dividend in May 1865 (Oberholtzer 1907, 340–42, 353; Larson 1936, 139–40).

In the South and West, Jay Cooke was also involved in promoting the formation of national banks in which he was not directly invested. Here his incentive, aside from his conviction that the new system was beneficial, was that setting up these banks would help him sell the 5-20 bonds because the banks could buy them to back their notes. Jay Cooke's many subagents and traveling agents propagated the advantages of the national bank system in the fall, and Cooke received a stream of letters from them in September, October, and November, describing their progress in encouraging the formation of national banks (Oberholtzer 1907, 353–57; Larson 1936, 142–43; Sharkey [1959] 1967, 245–46; Gische 1979, 46–47).

However, aside from Cooke's early efforts, the system was struggling to gain converts, especially among the large banks. Secretary Chase appointed Indiana banker Hugh McCulloch to be comptroller of the currency.[8] McCulloch's main task was to convert banks to join the system, but early on he did not have much success. If the plan were going to have any future, it was imperative to get New York City, the financial center of the country, on board.

The National Banking Act of 1864: Enticing New York City

The New York City bankers were totally against the new system. These conservative bankers were skeptical of federal intervention and were still angry at Chase over what they considered the bond-sale debacle. They were also already firmly ensconced in the New York State banking system and saw no benefit in being able to issue national bank notes because they issued only small amounts of state notes and instead relied on deposits. In addition, the name of every bank in the new system could include only the city in which it resided and a number designation (e.g., the First National Bank of Philadelphia), so many prestigious banks that had built up a recognizable title did not want to change their names (Sharkey [1959] 1967, 248–49; Gische 1979, 41–42).

To the nonconservative New York City bankers, the new system was a problem because of the new reserve-requirement regulations. Under the old "free-banking" system (1837–61), in which only states regulated banks, some banks had pyramided off of New York City banks (i.e., they held interest-bearing deposits at those banks), and

8. Like Chase, McCulloch was part of the Cooke ambit. In 1864, McCulloch considered resigning as comptroller to become president of Jay Cooke's Fourth National Bank of New York City, and when he later became secretary of the treasury from 1865 to 1869, he frequently sought Cooke's advice, and they generally, though not always, agreed on policies. In 1869, when McCulloch resigned as Treasury secretary, he became head of the newly established London branch of Cooke & Co. (Larson 1936, 199; Sharkey [1959] 1967, 247–48; Burch 1981, 27, 56).

many states allowed the banks' deposits in New York City to count as reserves.[9] Under the new law, any bank in the eight major cities mentioned earlier that kept balances in New York City could not count those balances toward meeting the 25 percent reserve requirement. If they and other outside banks joined, the new system would greatly restrict the balances the New York City banks received from outside bankers. Thus, many banks that resided in the major cities were also against the system because they would no longer be able to keep interest-bearing reserves at banks in New York City.

Even the small country banks had a reason to be opposed: although they could keep up to 60 percent of their 25 percent requirement in the form of deposits in New York City, they had to do so at national banks only. But unless New York City national banks joined, there was no institution where they could legally park their reserves.

Last, even if state banks wished to issue national bank notes, they were against the system because under the Harris amendment to the National Banking Act of 1863, bearing stricter regulations, they could issue national bank notes only as state banks (Gische 1979, 40–42).

Chase and McCulloch thought it essential to recruit the major New York City banks in order to boost confidence in the system and allow country banks to hold some of their reserves in the city. The banking strength of the leading New York City banks and of New York City in general should not be understated. In 1860, the fifty-five commercial banks in Manhattan had almost $70 million in bank capital; in comparison, their closest rivals in Boston and Philadelphia had $38 million and $12 million in bank capital, respectively. Although these fifty-five banks were 4 percent of the total number of state banks in the country, they accounted for 32 percent of deposits, 18 percent of loans, and 19 percent of the assets of the country's banks. Moreover, this dominance was concentrated in a handful of banks, with the ten largest banks having 46 percent of the total banking assets in the city and the three largest banks (the Bank of Commerce, the American Exchange Bank, and the Metropolitan Bank) accounting for 20 percent of the city's total banking assets. In addition, the vast majority of the pyramiding occurred at a few banks: the ten banks with the largest bankers' balances accounted for 69 percent of total bankers' balances held in the city (Gische 1979, 26–30).

Unfortunately for Chase and McCulloch, the New York City bankers were not about to budge and remained steadfast in their opposition to the new system. Members of the New York Clearing House Association agreed to boycott the system, not to

9. It should be noted that the term *free banking* is a misnomer for that monetary era because states still regulated banks in a number of important ways. Most notable was the bond-backing note requirement and prohibition of branch banking. Under a true free-banking system, where there is no government regulation of banks except to enforce contracts, banks will tend not to pyramid off of other banks but will instead keep all of their reserves in their own vaults. Banks were incentivized to keep balances in New York City under the preexisting system (as well as in the National Banking System) due mainly to the prohibition on interstate branch banking. Because banks could not compete across state lines and invest only in their given location, their loan portfolios were quite undiversified. As a way of diversifying their investments, banks would have interest-bearing deposits in New York City banks, which the latter used to invest in the stock market. In addition, banks held deposits there to gain access to the city's note-redemption center because they were unable to open up their own branches in New York (Smith [1936] 1990, 46, 147, 157–60).

accept national bank notes at par, and to prevent the national banks from using the clearinghouse. A group of bankers met on October 6, 1863, to discuss the banking system and on November 28 issued a devastatingly negative report written by John Williams, president of the Metropolitan Bank (Oberholtzer 1907, 338; Gische 1979, 44; Bensel 1990, 285–86; James and Weiman 2011, 342).

Overall, despite Jay Cooke's efforts in promoting national banks in the South and West, progress in the new system was quite limited. Up until November 1863, there were only 134 national banks, and only one of them was a conversion. In New York City, there were only 3 national banks, all nonconverts and with a combined capitalization of only \$1 million. In October, McCulloch and Chase had tried to raise \$5 million in capital for a Fourth National Bank of New York but could raise only \$1 million by early December. Chase had previously been trying to persuade John Austin Stevens, president of the Bank of Commerce, to join the new system. Stevens had previously been an unofficial policy adviser to Chase, had helped him with organizing the bond sales in 1861, and was overall more congenial to Chase's views because he realized the benefits in the form of country bankers' balances that would accrue to the Bank of Commerce for being one of the first movers. However, the Bank of Commerce was unable to join in 1863 because it was a limited-liability bank when the act required all banks to be double liability. On November 28, in his annual report to Congress McCulloch recommended several changes to entice the New York City banks, but overall the bankers shot them down (Oberholtzer 1907, 344–47; Larson 1936, 143; Gische 1979, 32–33, 46–48; Selgin 2000, 602).

With their backs against the wall, Chase and McCulloch once again turned to their formidable banking ally Jay Cooke. If they couldn't induce the banks to peacefully join, then they would work to set up competing national banks that would benefit from being in the new system and thereby cut into the existing state banks' profits. In early December 1863, Chase and McCulloch encouraged Jay Cooke to go to New York City and resuscitate the effort to raise capital for the Fourth National Bank. Within three days, the mighty Cooke had raised the necessary funds from New York, Boston, and Philadelphia. Afterward, he dragooned the city bankers by telling them if they didn't join in the National Banking System, he would amass his forces to set up a gigantic flagship bank for the new system with a capitalization of \$50 million and the benefits of receiving government deposits and a direct connection with the Treasury (Oberholtzer 1907, 345–48; Larson 1936, 140–42; Gische 1979, 48–49).

Although Jay Cooke looked back on this tactic with pride and stated that his threat had worked and forced New York City to join the system in 1864 and 1865, Chase and McCulloch were not so naive and realized that overall it was unwise to wage a permanent war against the New York City bankers. They realized that they would have to amend the system and make compromises. In January 1864, McCulloch, under the influence of Chase and Cooke, had already been working on potential revisions. Likewise, the New York City bankers saw the writing on the wall and realized that resistance would hurt them in the long run, so they were willing to join the new system on the condition that key changes to the National Banking Act be made. On February 29, 1864, the New York Clearing House Association decided to send a group of bankers to Washington to work on amending the act. The bill that came out of this effort in March included the following alterations: state banks could no longer issue national bank notes; exemptions would be allowed on the double-liability requirement (implicitly to allow the Bank of Commerce to join); there would be stricter capital requirements for rural areas; and the reserve requirements of country banks would be lowered from 25 percent to 15 percent. In addition, the cumbersome name regulations would be removed. Sherman, who was persuaded by Chase and McCulloch, introduced an amendment by which country banks could keep 60 percent of their 15 percent required reserves in seventeen designated reserve city banks or central-reserve city banks in New York City,[10] and the reserve city banks could keep 50 percent of their 25 percent required reserves in any central-reserve city bank in New York City, which were required to keep 25 percent reserves in their vault.[11] This amendment created the well-known multilayered pyramiding of credit that was associated with the National Banking System and allowed many potential reserve city banks to count their balances there as a part of their reserves. The Senate accepted the bill on May 10 and later passed it by a vote of 30 to 9, and in the House of Representatives it passed by a vote of 78 to 63; Lincoln signed the act on June 3 (Oberholtzer 1907, 358–59; Gische 1979, 49–55).

The amended National Banking Act was clearly an enticement to get important New York City banks to join, and on July 2 McCulloch, now alone because Chase had resigned in June, wrote a letter to Stevens subtly encouraging him to try to get his bank to join now that the liability requirement was waved, warning him that the longer he waited, the less bankers' balances his bank would get. It was clear that competition was already encroaching upon the older state banks: by October 1, there were twelve newly organized national banks in the city, four of them rivaling the large banks in capitalization and bankers' balances. By deciding to accept all national bank notes at par, the Bank of Commerce had already mutinied against the other New York Clearing House Association members when the Fourth National Bank opened in March. In mid-November, the Bank of Commerce's board of directors voted to convert and began business on January 13, 1865, as the National Bank of Commerce (Gische 1979, 55–57; James and Weiman 2011, 343–44).

When the Bank of Commerce capitulated, Chase and McCulloch finally got what they wanted in having a large, prestigious bank join the new system. The bank had a capitalization of $10 million, which was twice as large as any previously existing national bank. After the Bank of Commerce joined, the significant Park Bank followed

10. The cities were Boston, Philadelphia, Baltimore, Cincinnati, Chicago, St. Louis, New Orleans, Albany, Cincinnati, Cleveland, Detroit, Leavenworth, Louisville, Milwaukee, Pittsburgh, San Francisco, and Washington, D.C. (Jaremski 2013, 384–85).

11. In addition, many state governments allowed state banks to keep some of their reserves in national banks, which added an additional layer to the pyramid (Friedman and Schwartz 1993, 21; Rothbard [1982] 2005, 144).

in March, and eight other New York City banks converted, with five more in the process during the first quarter of 1865.[12] Once the major New York City banks had joined, the system's takeover of the country was inevitable. It should be noted that the motivation for the New York City banks, as well as for many other state banks that converted, was not the 10 percent annual tax on state bank notes enacted in March 1865. Although this tax had the important effects of forcing many state banks to close and pushing state bank notes out of circulation (a topic explored in the next section), the primary impetus for existing state banks to convert was the movement of the big New York City banks, which allowed the state banks to count their balances with those big banks as part of their reserves. The tax did not matter for the New York City converts because they issued few notes. Moreover, given the time lag involved in getting shareholder approval, purchasing the federal bonds, and calling in mortgage loans, the conversions would have happened in 1866 and not 1865. A total of 662 banks converted in 1865, but only 15 banks did so in 1866, which is a sign that these banks were motivated more by the 1864 act and not by the 1865 tax (Gische 1979, 23–24, 59; James and Weiman 2011, 343; Jaremski 2013, 385–86).

Overall, it was clear that the system was growing. From November 1863 to December 1865, the total number of national banks increased from 134 to 1,620, with the latter evenly split between newly established banks and state bank conversions. Capitalization grew from $16 million in December 1863 to $418 million by the end of 1865, and the value of bonds the new national banks bought to back their notes increased from $4 million in November 1863 to $277 million by November 1865 (Oberholtzer 1907, 353, 359–360; Larson 1936, 143; Selgin 2000, 602). These numbers indicate that in reality the new system, despite one of its initial motivations, was not as helpful in financing the war as the system's proponents had previously argued, but it would transform the financial scene and bring about important changes to banking in the country. Chase, Cooke, Sherman, and McCulloch had succeeded, and the National Banking System became a reality.

The Postwar Banking Era and the New York City Bankers' Banks

Once enticed, New York City banks began to convert in 1865, and once they joined the system, state banks began to convert en masse. In 1864, 245 state banks converted, with conversions concentrated in financial centers. In 1865, 662 banks converted, and by the end of the decade 934 had done so. The punitive 10 percent annual tax on state bank notes that started on July 1, 1866, was not instrumental in getting national banks to convert, but it did influence bank closures. State banks that realized it would be

12. Of the eight banks that converted, five did so in January and February, and the rest in March. Of these five banks, all received approval from their shareholders in December and January (Gische 1979, 58).

profitable to join the system once New York City was on board started to convert due to the 1864 amendment to the National Banking Act. The tax, however, was instrumental in getting those state banks who were unable to meet the capital requirements to close, and so by the end of the decade 640 state banks had closed (Jaremski 2013, 385–86, 391–92, 396). By October 1870, there were 1,612 national banks and only 325 state banks in the country overall.

New York City benefited greatly from this new financial arrangement. By October 1870, there were 54 national banks and only 21 state banks in New York City, compared to the 55 commercial banks in 1860. The city's share of the total banking assets in the country grew from 19 percent to 24 percent during this time, with national banks making up 87 percent of the latter figure. From 1860 to 1870, growth in bankers' balances in the city increased by 250 percent, as opposed to 60 percent in total deposits, with growth concentrated in the years after 1863. The percentage of balances in the top-ten banks relative to all the bankers' balances in the city actually grew from 69 percent in 1860 to 73 percent in 1870. New York City also benefited from the note-allotment features of the National Banking System, which concentrated note issuance in the Northeast. In 1866, of the $293 million total in national bank notes (of a maximum of $300 million), New England and New York banks accounted for $170 million, or 58 percent. New York City banks started to issue notes again, and by 1870 the 54 national banks in the city accounted for 11 percent of total national bank note currency. The National Bank of Commerce alone held nearly 2 percent of the nation's total national bank notes (Gische 1979, 59–64).

The growth of the overall banking system was not in all existing state banks that converted but rather in newly formed banks that entered the market relatively early on or those banks that converted quickly, including Jay Cooke's. In general, in 1870 five of the top-ten largest banks in terms of total banking assets had not been in the top ten in 1860. The three largest banks were Cooke's Fourth National Bank and early converts the National Bank of Commerce and the National Park Bank. In terms of bankers' balances, however, with the exception of the Park Bank, the older banks such as the National Bank of Commerce were displaced in favor of new national banks, confirming McCulloch's warnings about the negative effect of waiting to convert. By 1869, five of the top-seven largest national banks in terms of bankers' balances were some of the earliest newly created national banks in the city. In particular, Cooke's Fourth National Bank was the second largest, beaten only by the National Park Bank (Gische 1979, 63; James and Weiman 2011, 349–52). In other words, Jay Cooke, who was instrumental in getting the National Banking System off of the ground and in creating a beachhead in New York City, had established and partially owned the largest national bank in terms of total banking assets and the second-largest national bank in terms of bankers' balances by 1869. Recall that Cooke & Co. was also growing during this time, establishing branches in New York City and London in the postwar years. From the advent of the Civil War to the postwar years, Jay Cooke had leaped from a business outsider to one of the undisputed financial and banking giants of the country and had greatly profited from the legislation he helped enact. Moreover, New York City, once hostile to the system, after the 1864 amendment to the National Banking Act also benefited by strengthening its position as the home of the country's leading bankers' banks.

Thus, the National Banking Acts of 1863 and 1864 revolutionized the financial structure of the country by creating a quasi-centralized banking system with reserves generally concentrated in a few New York City banks. Although they drastically changed the monetary environment of the country, they did not correct prior deficiencies in the banking system and in some cases worsened them, in particular exacerbating the preexisting tendency for panics.

In general, the continued prohibition of branch banking made the banks less diversified and more failure prone than they would have been without the prohibition. More important for this discussion is the increased tendency for banks to hold balances in New York City. In the first place, the new national banks in New York City that specialized in holding bankers' balances held a much higher proportion of bankers' balances on their balance sheets than their predecessors and were thus more fragile. More importantly, the increased concentration of reserves in New York City made the entire system less stable during periods of increased demand for currency. If country banks faced an increase in the demand for notes during the harvest season, due to the bond-backing note restriction they would instead pay out reserves (i.e., specie and greenbacks), which often required them to draw down on the balances they held at other banks. Those other banks in turn would face increased liquidity pressure and would draw down on their balances in the main New York City national banks, so the liquidity problem was spread to banks nationwide and could possibly lead to a bank panic and nationwide suspension of specie payment. To make matters worse, the New York City national banks, which invested the bankers' balances to stockbrokers at call, would recall their loans, which would lower stock prices and lead to increased stringency on the stock market. The fragile nature of the stock market during these times was obvious when a prominent firm failed, which could instigate a crash and bank runs (Rockoff 2000, 667–69; James and Weiman 2011, 354–55; White 2013, 32–33; Calomiris and Haber 2015, 183–84). Thus, although the 1864 amendment saved the National Banking System by allowing national banks to count bankers' balances in New York City as part of their reserves, it did not solve the preexisting tendency for panics and in fact worsened it by encouraging further pyramiding.

The first major panic of the national banking era was in 1873, when coincidently Cooke & Co. in Philadelphia failed on September 18. In the years after the Civil War, Jay Cooke came to learn that marketing government debt was not as lucrative as it once was, and he soon switched to the railroad business, in particular underwriting Northern Pacific Railway bonds. When the railroad industry turned south in 1872 and 1873, and Cooke was unable to sell these bonds, he was forced to go out of business. The Philadelphia, New York, Washington, and London houses of Cooke & Co., along with the First National Bank of Washington, D.C., were liquidated soon after that, and Jay

Cooke never regained his stature as one of the country's leading financiers and bankers (Larson 1936, 412).

Conclusion

Monetary legislation is often not created in a vacuum separate from the special interests who stand to benefit. This paper has argued that the origins of the National Banking System was due primarily to the special relationship between Secretary of the Treasury Salmon P. Chase and investment banker Jay Cooke, and the system survived only because of Cooke's help and a revision to the National Banking Act in 1864 that spurred the formation of national banks in New York City. Through his personal background and his financial acumen, Cooke became the main subscriber of Union bonds in 1862. That the new national banks would increase the demand for his bonds and increase his sales gave Cooke an enormous incentive to help convince Senator John Sherman of the need for the National Banking Act and to lobby the act through Congress in the winter of 1863. Cooke also later profited by helping to establish new national banks, including a large one in New York City, which later became one of the largest bankers' banks in the city.

However, despite all of Cooke's eagerness, the new system would not have survived had it not been for the 1864 amendment to the National Banking Act, which allowed banks in large cities to consider deposits held in New York City banks as part of their reserves, something they had not been allowed to do in the earlier version of the act. This provision encouraged existing prestigious state banks to join the system and ultimately profited newly formed national banks in the city, which began to specialize in housing bankers' balances. The concentration of reserves in a few banks led to the creation of an unstable, quasi-centralized banking system.

References

Bensel, Richard. 1990. *Yankee Leviathan: The Origins of Central State Authority in America, 1859–1877*. New York: Cambridge University Press.

Blue, Frederick. 1987. *Salmon P. Chase: A Life in Politics*. Kent, Ohio: Kent State University Press.

Burch, Philip. 1981. *Elites in American History: The Civil War to the New Deal*. Vol. 2. New York: Holmes and Meier.

Calomiris, Charles, and Stephen Haber. 2015. *Fragile by Design: The Political Origins of Banking Crises and Scarce Credit*. Princeton, N.J.: Princeton University Press.

Davis, Andrew. 1910. *The Origin of the National Banking System*. Washington, D.C.: National Monetary Commission.

DeCanio, Samuel. 2015. *Democracy and the Origins of the American Regulatory State*. New Haven, Conn.: Yale University Press.

Friedman, Milton, and Anna Schwartz. 1993. *A Monetary History of the United States, 1867–1960*. Princeton, N.J.: Princeton University Press.

Gische, David. 1979. The New York City Banks and the Development of the National Banking System, 1860–1870. *American Journal of Legal History* 23, no. 1: 21–67.

Hammond, Bray. 1970. *Sovereignty and an Empty Purse: Banks and Politics in the Civil War*. Princeton, N.J.: Princeton University Press.

James, John, and David Weiman. 2011. The National Banking Acts and the Transformation of New York City Banking during the Civil War Era. *Journal of Economic History* 71, no. 2: 338–62.

Jaremski, Matthew. 2013. State Banks and the National Banking Acts: Measuring the Response to Increased Financial Regulation, 1860–1870. *Journal of Money, Credit, and Banking* 45, nos. 2–3: 379–99.

Kindahl, James. 1961. Economic Factors in Specie Resumption in the United States, 1865–79. *Journal of Political Economy* 69, no. 1: 30–48.

Kirkland, Edward. 1961. *Industry Comes of Age: Business, Labor, and Public Policy, 1860–1897.* New York: Holt, Rinehart and Winston.

Larson, Henrietta. 1936. *Jay Cooke, Private Banker*. Cambridge, Mass.: Harvard University Press.

Oberholtzer, Ellis. 1907. *Jay Cooke: Financier of the Civil War*. Vol. 1. Philadelphia: George W. Jacobs.

Richardson, Heather. 1997. *The Greatest Nation of the Earth: Republican Economic Policies during the Civil War*. Cambridge, Mass.: Harvard University Press.

Rockoff, Hugh. 2000. Banking and Finance, 1789–1914. In *The Cambridge Economic History of the United States,* vol. 2: *The Long Nineteenth Century,* edited by Stanley Engerman and Robert Gallman, 643–84. Cambridge: Cambridge University Press.

Rothbard, Murray. [1982] 2005. A History of Money and Banking in the United States before the Twentieth Century. In *A History of Money and Banking in the United States: The Colonial Era to World War II,* edited by Joseph Salerno, 47–179. Auburn, Ala.: Ludwig von Mises Institute.

Selgin, George. 2000. The Suppression of State Banknotes: A Reconsideration. *Economic Inquiry* 38, no. 4: 600–15.

Sharkey, Robert. [1959] 1967. *Money, Class, and Party: An Economic Study of Civil War and Reconstruction*. Baltimore: Johns Hopkins University Press.

Smith, Vera. [1936] 1990. *The Rationale of Central Banking and the Free Banking Alternative*. Indianapolis, Ind.: Liberty Fund.

Timberlake, Richard. 1993. *Monetary Policy in the United States: An Intellectual and Institutional History.* Chicago: University of Chicago Press.

Wallis, John. 2006. Federal Government Finances—Revenue, Expenditure, and Debt: 1789–1939. In *Historical Statistics Millennial Edition Online,* edited by Richard Sutch and Susan B. Carter. Cambridge: Cambridge University Press. At http://hsus.cambridge.org/HSUSWeb/toc/tableToc.do?id=Ea584-587.

White, Eugene. 2013. "To Establish a More Effective Supervision of Banking": How the Birth of the Fed Altered Bank Supervision. In *The Origins, History, and Future of the Federal Reserve: A Return to Jekyll Island,* edited by Michael Bordo and William Roberds, 7–55. Cambridge: Cambridge University Press.