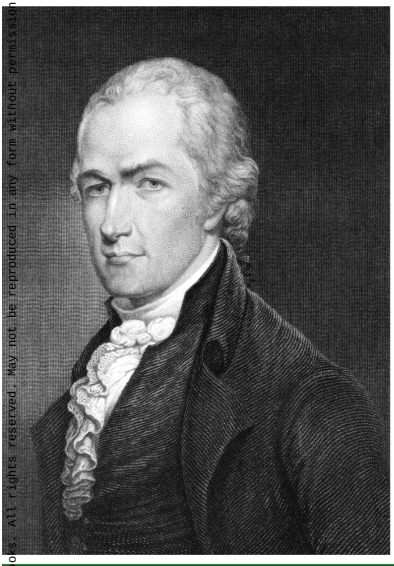
ALEXANDER HAMILTON AND THE ORIGIN OF THE FED



JACK RASMUS

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Chapter One

Evolution of Central Banking in the United States

When capitalist economy began to emerge in the fourteenth century in Europe, as isolated "islands" in locations like northern Italy, Netherlands, or England, there were still no central banks in the modern sense. Merchant banks, the earliest form of banking, had been around in Europe at least since the early thirteenth century in places like Venice, Genoa, and Florence, as trade and commerce began to expand during the high middle ages. In the fourteenth century northern Italian merchant bankers began to migrate north and set up shop in Amsterdam and London. They settled in what would become the center of English banking in London for centuries to come. It was called Lombard Street, so called still to this day, named for the Lombardy region of northern Italy where merchant banking in Europe had its origins.

During this early period of the thirteenth to fifteenth centuries, merchant banking was the dominant form of banking at the time and had only just begun to evolve beyond its primary role of financing trade into a broader range of banking services called commercial banking. The transition of merchant banking to commercial banking came in the sixteenth and seventeenth centuries. Commercial banking thereafter accelerated rapidly as the industrial revolution took hold in the eighteenth century.

What today would be known as central bank functions were performed in the earlier merchant-commercial banking periods, but only in rudimentary form. One of the earliest functions was providing credit to monarchs and emperors, who relied on loans from bankers to fund their wars and empire building. This lending-to-government function extended back well before the thirteenth century of course, in classical history and likely before. In the twentieth century, however, it would become an almost exclusive function of central banks.

Other central bank-like functions emerged as commercial banks themselves evolved and developed in the sixteenth through eighteenth centuries. Central banks would eventually assume these additional functions from commercial banks as well. In other words, central banking evolved out of the profit-seeking private banking system, although central banks per se would not appear as separate institutional forms until the end of the eighteenth century at the earliest. Before then central bank functions were performed by private banks, albeit in only a very limited sense and by only a select few of the larger and more successful commercial banks.

The Bank of England is generally acknowledged as the first central bank. It was originally founded in 1694. At its founding it was not yet what might be called a modern central bank, but rather a forerunner to central banking. It would take another one hundred and fifty years for the Bank of England to transition from a commercial bank with central bank-like functions to a modern central bank.

The Bank of England assumed certain central bank-like functions as early as the 1790s and more functions again with the passage of the Bank Act of 1844. During its evolution from 1694 to 1844 the Bank of England continued to operate as a typical commercial bank competing with other commercial banks. The 1844 Bank Act was an important threshold for the bank taking on central bank functions. For the first time the act gave the Bank of England more or less a monopoly over issuing British government bank notes and currency. A further major step toward modern central banking occurred in the 1870s, when the Bank of England assumed the role of lender of last resort for the private banks; that is, it officially assumed the responsibility and authority to bail out private sector commercial banks when necessary. That lender of last resort authority not surprisingly coincided with the emergence of the classical gold standard at that time, which was based upon the British currency, the pound sterling, as the anchor.

It is important to note that this mid-nineteenth century evolution to a central bank as an institutional form itself occurred on a base of a rapid expansion of industrial capital and production. Central banks are a creature of these conditions—conditions very much different from twenty-first-century global capitalist economy. Central banks are therefore something of an archaic form, designed and structured to deal with nineteenth-century capitalism but not its twenty-first-century version.

During the period from the initial formation of the Bank of England in 1694 to the Bank Act of 1844, the commercial banking system of England (as well as elsewhere in Europe and the United States) experienced repeated bouts of banking instability, of high risk activities and periodic booms and busts as speculative practices led to repeated banking crashes. There were the Mississippi and South Seas bubbles early in the 18th century, the banking crisis of 1772, chronic banking instabilities in the 1790s and at the close of

the Napoleonic wars, and banking panics in the 1820s.[1] Financial speculation led again in the 1830s to yet another bank crash in 1836, as private banks simply escalated their note issues in the preceding years and spawned new speculative bubbles until the Bank Act of 1844 was passed in an effort to regain some control over the exploding notes and currencies issuance.[2]

The boom in industrial commodity capitalism in the United States from the middle of the eighteenth to nineteenth centuries was accompanied by the growth and complexity of the private banking system. Although commodity money in the form of gold, silver, and other metals (together called "specie") was the dominant money form during this period, bills of credit and other forms of paper currencies were expanding rapidly as well. Paper currencies were issued by private banks in countless forms and denominations. Central banks with monopoly rights over issuing currencies on behalf of their governments did not yet exist in most countries at mid-nineteenth century to provide a check on the explosion of paper currency and other notes issues.

For example, in the United States, the period before 1860 has been called the era of "free banking." The number of commercial banks grew from less than one hundred in 1810 to sixteen hundred by 1860, mostly after 1830.[3] The "free" in free banking refers to freedom for investors to start a bank with minimum of capital. And thousands did. During this period commodity money (gold) increased in the United States—both from foreign inflows and domestic discovery—but the growth of paper currency, or "bank money" as it was called, grew just as fast. "It is estimated that on the eve of the Civil War more than nine thousand kinds of bank notes, issued by the more than sixteen hundred state-chartered banks then operating, were in circulation."[4]

The massive and uncontrolled increase in the money supply in the United States case led to runaway financial speculation in gold, infrastructure bonds, and real estate (land) in the early 1830s, culminating in the historic banking crashes and the first great depression in the country from 1837 to 1843. A similar banking crisis occurred in Britain in the early 1840s. But whereas the British thereafter provided the Bank of England in 1844 with monopoly powers over notes and currency issue, in the United States, no central bank was similarly established.[5] "Wild west" commercial banking would continue to flourish in the United States, leading to even more severe commercial banking crashes in the 1870s, 1890s, and 1907–1908—only after which the United States moved to establish a central bank, the Federal Reserve System, in 1913.

Controlling the issuing of paper currency money was a major problem for capitalist banking systems in the nineteenth century. It led to increasingly frequent and severe banking crashes. Only when the power to create paper money was taken out of the hands of the private banking system—and given to a central bank—was the banking system destabilization checked, but even then only to a degree. While the creation of a central bank with monopoly

notes issue authority served to minimize the problem of commercial banking instability due to runaway paper currency issue, it did not resolve the problem completely. Central banks have never been really successful in managing the money supply—a problem bigger than just issuing paper currency. Gaining monopoly control over paper currency and notes issues only partially addressed the problem.

At first the issue of paper currency by private banks (and later central banks as well) was limited to no more than the value of gold and specie held on hand—that is, at first on a "one-to-one" ratio. For every pound currency created, an equivalent value in gold was held in reserves. But a two-to-one ratio enabled a potential doubling of bank lending. Doubling loans allowed an even greater expansion of industrial production and commerce and trade associated with the expanded production than if loans were financed by gold only. But there was not enough gold or commodity money in the world at the time to finance a doubling of industrial production and trade.[6] Gold was not so easily doubled. Money supply in the form of gold was difficult to increase as fast as production and trade. Gold had to be mined. That was slow, costly, and not always possible. Paper currency, on the other hand, was immediately available virtually everywhere—from trees. And there were far more trees around than gold mines.

Paper could increase as fast as production and trade might expand. By issuing more paper, banks could increase lending to nonbank businesses to fund more investment to increase production. But paper currency might also expand even faster than production and trade. And that was a problem. Not enough gold held back production and trade, but too much paper meant speculation, inflation, and eventually banking crashes. The problem was not just a question of printing too much paper. If the "one-to-one" ratio with gold was reduced, for example, to "one-to-two" or "one-to-four," ad infinitum until more paper would be released into the economy as well. So long as the creation of paper currency (bills of credit, etc.) was limited to amount of gold and specie on hand, paper currency might double the amount of money for banks to lend, but the amount was limited by the ratio. However, if that ratio was raised—for example, to two to one or more—then the amount of paper currency issuance was potentially unlimited.

This problem of what's the proper ratio of reserves (in gold) to paper currency raises problems with what is called "fractional reserve banking."

Fractional reserve banking permits the accelerated expansion of bank lending and debt with which to finance industrial development far beyond what might have been possible if money were only gold or other precious metals. But fractional reserve banking works when expansion is steady and stable. When that expansion falters and economies sharply contract, and industrial producing capitalists cannot repay their loans to banks they borrowed from, those banks that made the loans experience losses in turn as

borrowers default. Customers of the banks, sensing the banks' financial crises in such instances, then demand the return their investment-deposits in the bank—that is, they pull their capital out of the banks and exacerbate the bank crisis further. But the bank is based on "fractional reserves" and lacks the deposits to return to investors and depositors upon their demand. The deposits have been loaned out and locked up in physical assets that cannot be easily, readily, or even legally converted back to money form. A run on the bank may then occur and the bank declared "bankrupt" for lack of funds to return to investors-depositors on demand. Bank runs, moreover, have serious psychological "contagion effects" on other banks. Not infrequently, a run on a bank in trouble quickly spreads to other banks as well that may not have originally been in trouble. But because they too operate on a "fractional" basis, they also cannot return capital on demand. Then a general banking crisis ensues.

So fractional reserve banking in one sense is positive and promotes expanding production and economic growth, but at the same time it is potentially system destabilizing and the source of excess bank lending that can lead to banking crashes. Central banks have no alternative when the latter occurs except to "fill up the fraction" equal to the demand by the bank's depositors-investors—that is, bail out the banks in question.[7]

By the mid-nineteenth century bouts with financial crises and bank runs were repeating with increasing severity. How to prevent the uncontrolled issuing of paper currency by private banks that were keeping less and less gold reserves on hand to back up the increasing volume of paper being issued? Fractional reserve banking was a great boon to advancing production, but it was at the same time a fundamental weakness at the heart of the private banking system itself. It still is.

To bring some semblance of control and stability to the overissue of paper currency occurring throughout the private banking system, the British Bank Act of 1844 firmly established the Bank of England's monopoly over the issue of notes for the British government. The evolution toward a modern central bank was then taken a step further in the 1870s when the Bank of England additionally assumed the function as lender of last resort to the private commercial banking system.

By taking control of the issue of notes and paper currency and setting a "fractional reserves ratio" for all private banks, the Bank of England sought to reduce the destabilizing effects on the banking system of private bank control of paper currency and reserves setting. And to prevent the contagion potential from a private bank or banks crashing, the lender of last resort provided an additional stabilizing function.

Other early capitalist economies in Europe only established central banking as late as the nineteenth century after having gone through a similar pattern of instability as did England and the United States. The Banque de

France, the second earliest central bank, was only founded in 1800, Scandinavian and northern Europe economies thereafter, Germany in 1876, Japan 1882, and other western European economies in the late nineteenth century. By 1870 to 1890 nearly all European economies had adopted monopoly over notes issue and lender of last resort authority.

The US central bank, the Federal Reserve, was created later, only in 1913, and Latin American and other central banks were created later still, in the interwar period.[8] As other central banks were founded in the early twentieth century, they too assumed the critical functions of monopoly over note issues and lender of last resort. By 1900 there were only eighteen central banks with true central bank functions of notes issue and lender of last resort. By 1920 there were still only twenty-three worldwide. But by 2000 there were nearly two hundred.[9]

Central banks are thus a recent institutional innovation of modern capitalist economies, a creation of only the last two centuries, and especially only since the late nineteenth century. Modern central banking is barely a century old. That fairly recent origin, and the conditions under which central banks arose, is critical to understanding the limitations of central banking in the twenty-first century.

Since 1800, the era of modern central banking, central banks have evolved considerably. New functions have been added over the past two centuries. New tools with which central banks attempt to carry out their various functions have been developed over time as well, as have various "targets"—that is, economic objectives—by which central banks measure how well their tools achieve their objectives. Functions, tools, and targets consequently represent three dimensions by which the performance (and thus either success or failure) of central banks may be measured.

What might be called "primary" central banking functions include acting as fundraising agent for the central government to maintain defense forces, finance wars, and build infrastructure needed for economic development that private investment fails to undertake; regulating the money supply to stabilize private investment and minimize excess inflation or deflation in the general economy; supervising the private banking system to dampen excess financial speculation that tends to lead inevitably to extreme credit fluctuations that destabilize the economy; and acting as what has been called a "lender of last resort" to bail out individual banks of importance to the system or, at times, the broader banking system itself which, the historic record shows, periodically experiences a system-wide financial instability.

Secondary central banking functions have also evolved over the past two plus centuries: conversion of commodity money (metals or specie) and paper currency, clearinghouse services for the private banking system, management of government payments systems (i.e., fiscal agent or "bill payer" for the government), and general research on the economy.

To perform the functions of central banking, especially the primary functions noted, central banks have evolved various tools over the past several centuries since their advent in the late eighteenth century. The tools of central banking during the "long nineteenth century," from 1791 to 1913, were primarily the issuance of paper currency (and the eventual attainment of monopoly over its issuance), the control over the rate of convertibility of metallic money (gold, silver) to paper currency, establishing and supervising reserve requirements held by private banks, and the creation of a "discount rate."

It is important to distinguish between central banks as institutions per se, and the evolution of central banking functions. Except for the proto-central banks—the 1st and 2nd Banks of the United States—there was no central bank in institutional form of a central bank until the twentieth century, that is, the founding of the Federal Reserve Bank in 1913. But there were inevitable central banking functions that continued to evolve throughout that long nineteenth century. After the demise of the 2nd Bank of the United States in 1836–1837, central banking functions, as minimal as they were, were undertaken by the US Treasury or state banks or legislatures.

The US government still needed to raise funds to help finance government functions, especially when wars and/or government-financed infrastructure projects necessary for general economic development required such funding. Although minimal and largely ineffective, state legislatures on occasion launched private bank supervision initiatives. With the advent of the Civil War, the national government issued its own currency, the greenback, to help finance the war. Government fundraising to finance the war with bonds also created the foundation of the modern bond system and relation to private bond brokers. The 1860s launch of the national banking system was also an attempt, partial and insufficient, to create a modicum of further influence over the money supply by introducing a reserve requirement for participating private banks. The US Treasury acted as the critical lender of last resort in 1907 to bail out the banking system when private bankers' pooling of funds failed to stabilize the system. So banking functions were continuing to evolve throughout the long nineteenth century period, when the US economy had no central bank in the institutional sense.

The evolution of central banking functions was inevitable in an increasingly large and complex capitalist industrial—and financial—economic system. For all the positives and negatives of central banking, Alexander Hamilton's vision was to understand the necessity of such functions in order to regulate and stabilize the growth and expansion of a capitalist economy in America.

That vision, however, and inevitable expanding central banking functions, was not shared by private bankers and investors in America at first. Those forces resisted the centralization of monetary functions that an increasingly large, widespread, and complex economy would require—especially as

the United States entered the global economy in the late nineteenth and early twentieth centuries with the intent of being a major player alongside the United Kingdom and other European economies that dominated the global economy at the time. Centralizing monetary control meant supervision interference in the great speculative profits to be made in land settlement, transport infrastructure development, commercial real estate, and industrial-manufacturing expansion as the US economy developed and moved west to occupy the continent. Centralization of money supply (creation and management) meant state and local banks could no longer create their own currency money at will, nor could they lend out all their reserves to maximize profits from speculation in land, railroads, and construction. And with no centralization of money creation, no central lender of last resort was possible. State and local banks preferred to take the risk of speculative profits over "rescue" by some central monetary institution, when banking crashes occurred.

The history of United States' nineteenth century banking was one of continued resistance at the state and local level to centralization of central banking functions. Great profits from speculation were to be made, and were made, despite the periodic financial crashes and sometimes the great depressions they wrought. The US decentralized government structure enabled state and local banks to hold at bay, or at least to slow, the evolution of central banking functions in a central national institution. From the forces that scuttled the 1st and 2nd Banks of the United States, to the unfettered free banking wild west, to the resistance to participate in the national banking system to the fight over gold versus silver, the state and local banks were able to prevent the establishing of a central bank in the modern sense, while central banks had already emerged throughout the advanced economies of Europe.

The federalized political system in the United States, combined with the history of creation of thousands, and tens of thousands, of local and state level banks, differentiated the US economy from the European. The state-local versus national-central dichotomy largely explains the late emergence of a modern central bank in the United States compared to other equivalent economies at the time.

By the early twentieth century it had become obvious, however, that a national, centralization of central banking functions was required. The war of 1898 revealed the United States could not finance a modern war efficiently without a bona fide central bank. The panic and crash of 1907 showed that private banks, even the larger and well-financed big New York banks, could not "bail themselves out" any longer as they were able in the 1873 and 1893 "crashes" that led to depressions in those decades. Direct government bailouts—as occurred in 1907 and 1908—threatened politicians' re-election in a democratic popular voting system. A more opaque system of bank bailout was required for politicians not to pay the political price for private banking system bailout. Nor could the United States participate as an equal on the

global stage with its European competitors without a central bank. The big New York banks during the decade preceding World War I envisioned great opportunities for US banking expansion globally. That would require a central bank, however. After 1903, they would therefore take the lead in promoting and establishing a central bank. They achieved this objective in 1913. The New York district of the new central bank would serve as their base from which to grow globally, as well as to exert more control over a now centralized, monopolized national currency and exercize more influence over national money supply.

The "trade-off" to get state-local buy-in for the new central bank in 1913, was not to call it a central bank. They called it a "Federal Reserve" system. And the new system would be structured to give state-local banking interests virtual control over their own regional economies. The original Federal Reserve Bank was thus not really a "central bank," but twelve central banks, with the eleven districts running their own districts, regulating their own money supply, and ensuring little, if any, private bank supervision. In exchange, the big New York banks which brought about the creation of the Fed in 1913 would sit atop the structure. The New York district assumed special powers the other eleven did not. It was a compromise of sorts. The New York bankers got their platform for global expansion. Money supply regulation was shared with the eleven districts. And bank supervision everywhere was supervision by the Federal district bankers over the private state and local bankers, or essentially no supervisory interference in local banking by the center. The national government in Washington, that is, the Congress and Executive branch exercised influence over the new Federal Reserve virtually in name only.

This essentially private banker-run and -controlled Federal Reserve System—where power was shared between state-local banking interests and big New York bankers—was in effect a federalization of central banking functions. The arrangement would last from 1913 to the Great Depression of the 1930s. The profound failure of the Federal Reserve central bank during the 1930–1933 period would lead to its restructuring. In terms of bank supervision, before 1935 the Fed failed abjectly to supervise and prevent the private banking system's speculative excesses of the 1920s; in 1932 it contracted the money supply when it should have been expanded, in order to raise interest rates to protect dollar and bond values of investors; and it failed to bail out the banking system as it crashed no less than four times, 1930–1933, each time on an ever-larger scale.

During its first two decades the Fed failed miserably. However, unlike the nineteenth century failures of the 1st and 2nd Banks of the United States and the halfway efforts of the National Banking system, the Federal Reserve System would not be abandoned after 1933. It would be restructured and reformed. Now power would be shared not only between local-state and big

New York banks, but between them and representatives of national economic interests in an expanded Board of Governors of the Fed, with seven appointed national governors, and a Fed chair. Now nineteen decision makers—twelve Fed district presidents selected by regional banking-business interests—would share power with seven additional governors of the Fed, appointed by the President and approved by Congress. This system would prove sufficient throughout the remainder of the twentieth century.

However, with the banking crash of 2008–2009, great recession that followed, weak subsequent recovery, and continued massive debt escalation of the last decade, 2009–2018, that 1935-reformed Fed system is now confronted with yet another "crisis period." Whether it will be able to successfully evolve further, once again, in terms of central banking functionality, structure, and tools is the critical question.

NOTES

1. John Francis, *History of the Bank of England*, vol. 1, Elibron Classics, 2005, chapters 7–10, and 16. For 1820s to 1844 Bank Act, see vol. 2 of this work by Francis.

2. In the United States, banking crises erupted as well in the mid-1780s, after the Napoleonic wars in 1815, in 1836–1837, and in the early 1870s and early 1890s, and in 1907–1908. For a description and analysis of these US banking crises, which led to subsequent general depressions of significant magnitudes, see Jack Rasmus, *Epic Recession: Prelude to Global Depression*, Pluto Books, London, 2010, chapters 4–5.

3. Jeremy Atack and Peter Passell, *A New Economic View of American History*, W. W. Norton, New York, 1994, p. 89.

4. Atack and Passell, p. 85.

5. Indeed, the commercial banks politically aligned with President Jackson successfully prevented the renewal of the charter of what was called the "Second Bank of the United States," a private bank with central bank-like functions that was allowed to collapse under Jackson.

6. There is even less so today to support the level of production and trade globally. Were one to return to a gold standard, as some naively suggest, it would immediately collapse production and trade and quickly usher in a global depression unlike any before. On the other hand, unchecked issue of currency and other forms of noncommodity money leads to inevitable financial speculation and instability and financial system crashes. So if gold system means severe deflation and not gold means bouts of runaway financial inflation and instability, what's the answer?

7. But even bailout and rescue from collapse doesn't mean lending will resume. Losses that remain on bank balance sheets may prevent resumption of lending. Or bank lending may occur to only the safest of customer-borrowers. Or, in today's global economy, lending may go offshore to less risky borrowers with greater returns. Or bank managers may be psychologically skittish about lending at previous levels and may just hoard the cash. All the above occurred in the US economy following the 2008–2009 banking crisis.

8. See Table 1.1, "Central Banking Institutions before 1900," in Forrest Capie et al., *The Future of Central Banking: The Tercentenary Symposium of the Bank of England*, Cambridge University Press, Cambridge, 1994, p. 6.

9. Table 1.2, "The Number of Central Banks 1900–1990," in Forrest Capie et al., p. 6.

Chapter Two

Hamilton's Vision

Alexander Hamilton was the first Secretary of the US Treasury. He was also the father of central banking in the United States. Like other European countries circa the end of the eighteenth to the early nineteenth century that introduced versions of central banking, the United States, less than ten years independent from Britain, introduced its first version of a central bank in 1791. It was Hamilton who was the architect of the bank, who drafted the legislation for the bank, and who advocated and vigorously promoted it until the legislation was passed by the new Congress in 1790, and signed by President George Washington into law on February 25, 1791.

The origin of Hamilton's 1st Bank of the United States, a proto-central bank, goes back much earlier. Hamilton was the chief promoter of the idea of a central bank during the US formative period before the passage of the US Constitution and the creation of a US Treasury. His vision of what constituted central banking began to emerge as early as 1781. It evolved over the course of the 1780s decade, culminating in his proposals in his Reports #1 and #2 on Public Credit and a Public Bank. His Report #1 addressed how to retire the massive debt of the new country that had been run up by war and economic depression and to set the new economy thereafter on a stable credit footing. Report #2 addressed how a central bank, called a public bank, would ensure the continuation of sound credit available for the new economy. Hamilton's views on central banking, emerging from 1780 through 1791, would influence the evolution of central banking thereafter in the United States—from his ideas and experiments that emerged in the early 1780s, through the 1787 US Constitution and creation of the US Treasury 1789, and then the 1st Bank of the United States in 1791.

FIRST EXPERIMENTS WITH PRIVATE-PUBLIC BANKING, 1780–1786

As the previous chapter argued, early central banking functions everywhere grew out of for-profit private merchant banking. As a private banker himself in his formative years, Hamilton was well suited to become the father of central banking. Born in the Caribbean British West Indies, he began his banker career at age thirteen, working as a clerk at the Merchant-Banking firm, Beekman and Cruger, on the island of St. Croix. By age sixteen he had assumed an important management role in the firm. At age seventeen, in 1772, he was sent to New York to work for Cruger's uncle, who was the first president of the New York Chamber of Commerce. At age nineteen he entered New York revolutionary politics by writing pamphlets and debating Tories on why Britain was holding back the development of colonial banking, trade, and the economy. Hamilton was a business-savvy, merchant banker turned revolutionary. He was representative of the "new men" of US mercantilists who were chaffing under British colonial restrictions and the Bank of England which exercised a tight control over trade credits, banking, and money supply in the US colonies. Hamilton was one of the new men of the colonies' merchant class who would come to promote and finance the American revolution from their commercial bases in Philadelphia, Boston, Baltimore, and New York.

After receiving a battlefield commission of captain in early skirmishes with the British at the outbreak of the war, Hamilton was promoted to Lieutenant Colonel and appointed to George Washington's staff as aide-de-camp from 1777 until April 1781. Having no long or deep history or allegiance to any colony per se, and representative of his merchant banker-trader class, Hamilton was an ardent advocate of a more centralized government. His advocacy of centralization extended beyond that of government to the economic sphere as well.

Banking was the monopoly of the Bank of England during the colonial period. It wasn't until July 1780, with the rebellion from Britain well under way, that the very first commercial bank, the Pennsylvania Bank, was established.[1] Proponents of the Pennsylvania Bank envisioned it performing the basic central banking function of raising funds for the state of Pennsylvania government, which it did. The Pennsylvania Bank, as proto-central bank would continue until 1784, when it was dissolved.

But even before July 1780 and the launch of the Pennsylvania Bank, it was Hamilton who first proposed, in private correspondence to members of the Continental Congress in late 1779, that a "Bank of the United States" must be established and capitalized with what at the time was the incredible sum of $200 million. It would be provided in part by private gold deposits of

wealthy investors and in part by new issue of paper currency by the bank, authorized by the new government. The bank would have a ten-year charter.

Hamilton's view was that the new Bank of the United States should control virtually the entire currency of the new nation. The value of that currency, he argued, would no longer rest on a weak government (the then current Articles of Confederation), but on the bank, with assets reflecting the money put up by private investors who would own its stock.

This kind of private-public bank structure meant the bank might be a public bank, providing functions to the new government, but it was also in essence a private bank designed to provide a return on investment to its shareholders, a relatively small number of wealthy investors. The bank would issue currency ($200 million worth) that would constitute the paper currency of the new nation. In short, the bank—not the government—would create the national currency and money supply. The government would own half the stock of the bank and the small group of wealthy investors the other half. The bank would also raise funds for the government and procure contracts for military supplies on behalf of the government, while earning profits for shareholders in the process. Bankers' interests and the government-public interest would meld into one and the same within the new central bank institution.[2]

Whereas the Pennsylvania Bank was the first actual commercial bank experiment with central banking functions established in the United States, Hamilton envisioned his Bank of the United States far more broadly—as not only funding the national government but as serving as the source of currency creation and the national money supply. Hamilton was therefore, in 1779, probably the very first to propose anything resembling a national central bank in US economic history.

Within two months of the Pennsylvania Bank launch in September 1780, Hamilton in private correspondence proposed the creation of a national bank based on his model of the Pennsylvania Bank. He resigned as Washington's aide in April 1781 and a day later, he and other merchant-business interest representatives in the Continental Congress together proposed a kind of joint public-private commercial bank, half owned by the government and half by wealthy merchant shareholders, that would issue coin and currency, raise funds, and serve as fiscal agent for the government but also take deposits and make loans much as any private bank. It was always intended as a hybrid public-private bank.

Hamilton's second 1780 proposal for a public bank was evolving beyond his initial 1779 proposal. Instead of a ten-year charter, now it was proposed for thirty years. It would be a monopoly. No other public bank would be allowed while it operated. It was now permitted as well to invest in real estate and speculate in landed property. Finally, even if owned half by the government and half by investors, the bank would be firmly in control of the private

merchant bankers on its board: only four of the twelve directors would be appointed by government. Control would therefore clearly reside in the hands of the private bankers and their investors. From the very beginning in the history of central banking in the United States, in other words, the idea of "central bank independence" was not an issue. And dependence wasn't about government control of the bank; it was about bankers' control of the bank, and no pretension existed about who should control. It was the merchant bankers.

The practical outcome of Hamilton's second proposal was the creation of another experiment called the Bank of North America, launched by Hamilton's Congressional and banker colleague, Robert Morris. States from Pennsylvania to New York, Massachusetts, Connecticut, and Rhode Island quickly gave the "Bank of North America" monopoly charters in their states.

The Bank of North America was a corporation, just as Hamilton had envisioned. With incorporation came a charter granting it monopoly status as a public bank. Being a public bank monopoly while simultaneously involved in private business ventures meant critics viewed it as using its "insider connections" with the government to benefit in terms of profits. As the premier bank during the general economic collapse following the end of the Revolutionary War, the Bank of North America quickly became identified with the economic depression that set in from 1782 through 1787.

The yeoman farmer, the largest segment of the US population, especially opposed the bank because it generally refused to lend to farmers or charged high interest rates. Having a monopoly, the bank was also seen as competing with states' rights to issue their own paper currency. Given the dearth of gold money following the revolution, issuance of paper currency by the states was viewed by the yeoman farmer segment as critical for obtaining local loans.

As a for-profit private merchant bank, the Bank of North America also speculated in real estate, obtaining lucrative deals for its wealthy shareholders, while small farmers and businesses were left without access to credit during the 1780s depression. And as a corporation, foreign investors were able to buy into the bank and extract profits from it which they repatriated back to Europe. This, too, generated significant resentment and opposition at the state and local level. The foreign investor connection made it appear unpatriotic during the years immediately following the revolution, when anything European or foreign was considered the "enemy" in the eyes of many farmers and small businesses. As a result of these complaints, in September 1785, after only three years, the charter of the Bank of North America was also repealed.[3] The problems the bank faced were a harbinger of things to come.

While the Pennsylvania Bank and Bank of North America experiments—both centered in Philadelphia—struggled and failed to establish central banking functions in the source of a single institution, Alexander Hamilton and

merchant interests launched a third experiment in 1784, the Bank of New York. In 1784 the Massachusetts legislature also established a Bank of Boston. A Bank of Baltimore followed several years later. By 1790 there were therefore four major banks in the United States—each with some rudimentary central banking-like functions covering their respective states. But nothing yet had emerged on a "national" level, throughout the colonies, in the period preceding the Constitutional Convention of 1787 and the formation of a new government form.

Leading up to the Constitutional Convention, the culture of the new country was dominated by a strong mistrust and opposition to anything central, and that included giving any private bank a monopoly over central banking functions and thus a preferential relationship to the government it might leverage to its competitive advantage over the rest of the state banks.

Hamilton's central bank would somehow have to take root amid widespread social and political opposition to the very idea of a central or national bank, a deep-rooted tradition of decentralized money supply creation by private banks, and strong opposition to any interference by a central bank in private banks' business.

THE US CONSTITUTION'S CONSPICUOUS SILENCE

The new US Constitution said absolutely nothing about authorizing the creation of a central bank or even about describing a structure of banking itself for the new country. Delegates to the Constitutional Convention of 1787 discussed banking, then decided—purposely as it turned out—to avoid any reference to a central bank (or banking) in the Constitution itself. Moreover, most of the delegates held the constitutional view that, if the Constitution itself did not mention it, then that meant it was not to be included. (Others would later argue that if the Constitution did not mention it, that meant it was not excluded and could therefore be enacted.) There were passages in the Constitution specifically referencing money, but the relationship of money to banking, as well as central banking, was intentionally left silent. All that did not prevent a vigorous debate following the Constitution's ratification whether the Constitution prohibited central banking or permitted it, or whether the central government had authority to regulate private banks and/or the money supply.

The Articles of Confederation specifically cited the central government's authority to issue paper currency. But the US Constitution, in contrast, remained silent on the question. While it specifically stated that states could no longer issue paper currency, it did not say that the federal government could or could not do so. This did not mean that the delegates at the convention did not discuss the subject. They did. They voted, however, to exclude all refer-

ence to the new federal government's right to issue paper currency and to banking in general from the Constitution. This reflected concern among the convention delegates that denying states the right to issue currency, while giving the central government the explicit right to issue, could endanger the ratification of the Constitution. There was thus significant state and local opposition to giving the power to issue currency to a central government. The Constitutional Convention simply sidestepped the issue in order to help ensure ratification. Of the forty or so delegates to the Constitutional Convention present at different times, many held stock in the four dominant US banks at the time in New York, Boston, Baltimore, and Philadelphia. This included not only Hamilton, Washington, Franklin, but at least a dozen others.[4] As one historian has concluded, "Within the Convention, banks had more friends than enemies, but outside it was the other way around."[5] It would take more than seven decades for the US Supreme Court to clarify the issue, eventually interpreting another clause in the Constitution, Article 1, Section 10, the government's right to regulate interstate commerce, as upholding the central government and the bank's authority to issue paper currency. But one won't find that authority in the US Constitution itself.

The test of the federal right to issue paper currency arose later during the Civil War, when it began issuing paper "greenbacks" in 1862. In the interim, state-chartered banks issued mountains of paper currency despite the Constitution's ban on states doing so. The federal government simply chose to ignore the fact of states' violating the constitutional ban on paper currency issue, though it reserved the right to control it. "Economic changes in time made the use of paper money indispensable, and the Constitution had to be accommodated to that fact."[6]

In short, of the two sections of the Constitution that related to the central banking function of money supply creation, Article 1/Section 8 (regulation of commerce) said nothing about paper currency and money supply but was used to justify federal government authority to issue or deny paper currency; whereas Section 10 (prohibiting states issuing currency) was essentially ignored by the federal government. State banks issued currency despite the explicit ban while the right to issue currency at a federal level was not explicity prohibited.

HAMILTON'S FIRST REPORT ON CREDIT—RESOLVING THE DEBT CRISIS AND DEPRESSION

Economic depression was deep and widespread during the period of 1783–1787. The economy collapsed. It was deeply indebted from the war effort and unless those debts were retired, no new capital could be raised to finance investment to restore the economy.

Four categories of massive war debts remained outstanding in 1786–1787: debts held by US wealthy merchants and landowners; debts held by foreign governments; debts held by the states; and debts held by farmers as well as the soldiers who fought the revolution.

During the post-1783 depression period all the debt holders demanded repayment. But the federal overnment was broke and the Articles of Confederation could not resolve the problem of debt retirement. The federal government had no source of revenue with which to pay its debts. Debt was owed to wealthy US merchants and landowners who had bought government bonds or loaned the government money to fight the Revolutionary War; the states that had loaned the revolutionary government money to conduct the war effort; farmers who had provided supplies to the revolutionary army and the army itself and were paid with government notes and IOUs instead of gold or cash; revolutionary soldiers who were similarly paid in IOUs; and, not least, foreign governments—especially the Dutch and French—that had loaned the government large sums.

Under the Articles of Confederation the 1780s central government still depended heavily on contributions from the states to function, as it had during wartime. The individual states had revenue sources. They had monopolies over the collection of tariff revenues in their states. But since 90 percent of US trade before the war had been with Britain, that source of state revenues was now gone as Britain launched a general boycott of all US trade after 1783 and the war's end.

With virtually no tariff revenues from trade, the states themselves were now broke and could not continue support payments to the federal government. On the contrary, they were demanding repayment of the prior loans they had provided the central government. In this crisis of finance for the states, they were forced to try to raise taxes on their farmers. But the farmers had no "money" with which to pay any taxes. There was little gold money in circulation at the time during 1783–1787 and the paper currency issued during the war by the central government (Continental dollars) was now worthless at less than 5 cents on the dollar due to wartime inflation. To raise revenues, some states were threatening seizure of farmers' property in lieu of unpaid taxes. Farmers began to view their state governments as little different from the British with its onerous taxation policies, for which they previously had fought a war. States' efforts to raise their taxes resulted in a resurgence of yeoman farmer revolutionary action. Talk of a second revolution was spreading in some states like Pennsylvania. State legislatures were being occupied by angry farmers at mid-decade. They complained their farms were being seized for unpaid taxes—while the central government itself wouldn't redeem the war bonds and IOUs they had been given during the war for the food and services they had supplied to the government and army during the revolution.[7]

Funding for the government under the Articles of Confederation was even more unlikely from abroad. France was experiencing an economic crisis itself by 1787, and soon a revolution of its own by 1789, so that source of new loans was out of the question. Nor was it likely in any event that France would have loaned the new US government more without the United States first paying off its previous war debt. It was the same with the Netherlands.

Like the states, farmers, foreign lenders, and wealthy US merchants and landowners were also demanding payment of their wartime loans to the government. The depression had reduced their financial resources significantly. Moreover, the British trade boycott of the United States meant both northern merchants and southern landowners faced difficulty earning cash or lending due to their reduced earnings from trade.

The supply of money and its velocity had collapsed after 1783, and without a resolution of the debt crisis the economy of the new nation would remain severely depressed for an undetermined period. Without paying off its wartime debtors, the new government could not secure further loans with which to stimulate economic recovery from the depression. It was stuck in a low-level equilibrium, as economists might say.

The solution to the depression and the debt crisis was provided by the new 1787 US Constitution which cleverly proposed a restructuring of the new country's finances. At the heart of the new arrangement, the Congress was given the exclusive right to raise tariffs from trade and the states in turn were denied from raising tariffs as a source of revenue. The regulation of external trade was now the province of the new central government. In addition, the states agreed to allow the central government to assume ownership of all western lands and therefore future land sales revenue. The federal government would now have a stable source of revenues from a monopoly over tariffs as well as from future western land sales.[8]

In exchange for stabilizing its revenues, the new central government agreed to assume all the debts of the states. There was now no need for states to tax farmers who did not have the cash or to seize their farms. Insurrections and state legislature occupations at local and state level subsided. The federal government further agreed to assume the debts owed by the states as well. So in exchange for giving up its tariff revenues and claims to western lands, the states got their own debts paid, got paid for the IOUs the federal government owed them, and no longer had to tax or seize property of their farmers.

With its new revenues the federal government could also now repay its debts to wealthy merchants and landowners and to farmers and soldiers who were paid in promissory notes during the war. Foreign lenders, France and Netherlands, were repaid as well. Foreign and domestic lenders alike might now be approached for new loans. Steady tariff revenues meant the new US government would also now have a tax base thereafter to finance an army and navy to protect its borders, at the time under growing pressure from all

directions—the British in the north, Indian tribes and Britain in the west, pirates and Spain in the south, and from the British Atlantic boycott. But how to get trade going again without a sustained source of new credit?

Without the resolution of the debt problem, it made no difference what the political structure of the new government looked like. The US Constitution was thus an economic document first and foremost, and a political structure document thereafter. If the debt crisis, and in turn the depression, had not been resolved the US Constitution of 1787 would likely have proved no more successful than had the Articles of Confederation in stabilizing the country and the economy.[9]

It was in this context—that is, the depression of the 1780s, the crushing general debt problem, and the Constitution's ambiguity on banks, central banking, and credit—that Hamilton's vision and proposals for a public central bank must be understood.

Assuming the office of Treasury Secretary in September 1789, Hamilton was concerned not only with stabilizing the government's credit by retiring old debt but with how to ensure the continued funding and credit for the new US government, both in the immediate and the longer term. In Hamilton's view a key element in ensuring that access to credit was the creation of a central bank. Stabilizing the debt crisis was just a first step. Ensuring a continued flow of funding for the government, when needed, and for the general economy at large on a steady basis was necessary.

For Hamilton, it was not just a matter of accessing credit during periods of emergencies. It was about providing a stable source of credit that would enable and stimulate the economy to grow further and larger than it otherwise might. Hamilton's 1st Report would clean up the existing debt problem and thereby open the possibility for renewed credit, but it was the 2nd Report, establishing the public bank itself that was the key to ensuring future credit—not just for the government but for the private economy as well. Congress and the Constitution set up the vision as to how the debt crisis could be resolved and recovery restored in the short run. But a more specific plan to implement that vision and ensure future credit on a longer-term basis was required. The short-term credit plan was Hamilton's 1st *Report Relative to a Provision for the Support of Public Credit,* presented to Congress in January 1790, four months after he had assumed the office of Secretary of the Treasury.[10] The longer term credit plan, involving a public (central) bank would follow in Hamilton's 2nd Report. Both plans, and Reports, were phrased in terms of ensuring "Public Credit." The first, short-term solution did not anticipate a public bank; the second did.

Upon becoming Treasury Secretary, Hamilton's first act was to raise $100 million to get the funding of the US government going, which was obtained from loans from the Bank of New York and the National Bank of Philadelphia. Thus, the Treasury was initially assuming the very basic central

banking functions of fiscal agent and loan aggregator for the government. Hamilton's vision, however, was to have these basic functions transferred from the Treasury to a central bank as a separate and independent institution.

SOME HAMILTONIAN PRINCIPLES OF PUBLIC BANKING

Several important ideas associated with central banking appear consistently in Hamilton's thinking about a central bank—from his very early views through his proposals on public credit and a public bank.

One important idea was that Hamilton envisioned a central bank as a hybrid public-private bank from the very beginning. It would not be, and should not be, a strictly government institution. A central bank should be run by the private bankers who would constitute a majority of its board. This harkened back to Hamilton's very early views on the Pennsylvania and New York bank experiments he was personally associated with in the 1780s. The notion that a central bank might be "independent" of the private bankers was never considered. It was simply assumed it wouldn't and, indeed, shouldn't be independent—at least from private bankers.

A second important element of Hamilton's vision of a central bank was his view toward private investing. He saw this category of investing as a normal and positive activity for a bank. And since the central bank was a hybrid bank, there was nothing wrong with it also engaging in speculative ventures, especially in land development. The concentration of wealth in the hands of fewer was preferred to many. Wealthy investors would be better able to direct investments that would generate economic growth. And speculative investing typically concentrated wealth.

Hamilton's approval of speculative activity—even when engaged in by a public bank—disturbed various sectors of the government and public. It would quickly bring him in conflict with Thomas Jefferson and James Madison who had contrary views on private speculators, or who were called "land jobbers," "paper hunters," or even "Hamilton's Rangers" by public critics.[11] Many farmers and soldiers during the revolution were paid with government IOUs by both the states and the federal government. Over the course of the depression that followed the war's end, investors and speculators bought up their IOUs at pennies on the dollar. Now the speculators and other lenders wanted full payment for the bonds and IOUs they were holding. Hamilton's 1st Report on Provision of Credit authorized these payments at full value to wealthy speculators, instead of at the deep discounted price at which they bought up the IOUs from small farmers and soldiers. Madison proposed that speculators who had bought up government bonds at discount be paid only "half their face value, with the residual going to the original recipients of the bonds—the farmers, merchants, and soldiers from whom the speculators had

purchased them."[12] The Madison amendment thus reflected the deep popular discontent in Virginia (where Madison was a delegate to Congress), and throughout the states, with the way Hamilton proposed to address the issue of speculation in resolving the debt issue.

Critics like Madison and others became even more concerned about the possible speculative orientation of Hamilton's public bank when the issuing of stock in the 1st Bank of the United States when launched in August 1791, ended up in a speculative frenzy. Professional investors and speculators bought the initial stock under questionable circumstances, then resold it at a higher, speculative price. Stability in the price of the stock only stabilized once the Treasury was required to intervene.[13] What other destabilizing speculative excesses might a Hamiltonian public bank therefore encourage, critics asked?

Another characteristic Hamilton view was his attitude toward Britain and his positive view of gold flows from it to the United States. Hamilton favored maximizing gold inflows from Britain. He considered Britain essential for revival of US trade and to providing more gold to the country, which would increase the US money supply and thereby boost economic activity. He didn't see fluctuations in offshore gold flows as a future potentially destabilizing influence. These positive and contrary views toward Britain—with which the new country had just fought a war and from which it was still being harassed on the sea and from British continued agitation of Indian tribes against the United States—would further put Hamilton in direct conflict with Jefferson and Madison as well.

Hamilton also viewed a public bank as the way to ensure a more stable currency. Stable currency would elicit more investment, both at home and especially from abroad. Implied was a view toward centralized control of a single currency. This view too would come into direct conflict with wide sectors of government and public opinion. Strong political and economic forces would dictate against a single, centralized currency throughout the nineteenth century and prevent the 1st and 2nd Banks of the United States from establishing such.

In Hamilton's view, a public bank would also participate in expanding the money supply and thus economic activity. Selling its stock to investors raised funds from which the public bank could issue paper currency. The initial stock of the bank would provide the basis for its lending. Bonds issued by the bank to its investors would be paid at 4 percent, a rate higher than London rates, purposely designed to generate specie inflow to the United States. Hamilton envisioned the 4 percent interest paid from the Treasury by means of a regressive excise tax on spirits and liquors. Thus, regressive taxation would provide the means to transfer income from consumers to bondholders—that is, another element of the Hamiltonian public bank vision.

These preceding Hamiltonian principles as to how a public, central bank might function would appear in Hamilton's 2nd Report to Congress, often referred to as his public bank proposal: That proposal defined a bank that was hybrid public-private and managed by a majority of private bankers as its board members. It provided for only token minority participation of public, government board members. It was a bank understood to engage, like any other private bank, in land, stock, and other speculative private investment activity. It favored soliciting volatile specie money flows from London by ensuring US interest rates were set higher than those in Britain as a general rule. Hamilton envisioned his public bank exercising a near monopoly over a national currency, or at least establishing a dominant currency alongside other private banks' paper currency creation. That currency dominance would permit the bank to influence reserves held by other banks and thus provide a crude means for regulating the national money supply. It was a bank that was initially financed, moreover, in large part by regressive excise taxation.

HAMILTON'S SECOND REPORT—ENSURING CREDIT THROUGH A PUBLIC BANK

The Congress adopted Hamilton's proposed 1st Report on Public Credit into law in July 1790. The vote was carried almost exclusively by delegates from the northern states—that is, where bankers, investors, and owners of the bonds and IOUs were highly concentrated.[14] Some southern state delegates like Madison and others dropped their initial opposition to Hamilton's 1st Report and voted for it as well. The political trade-off was an agreement reached with the banker-led northern Congressional delegates to locate the new national Capitol in Washington, DC, instead of Philadelphia or New York. Jefferson, Madison, and others feared a concentration of both financial and political power in New York or some other city dominated by merchants and banking interests.

Hamilton's 2nd Report on Credit was delivered to Congress in late December 1790. It proposed the creation of the 1st Bank of the United States (BUS1)—the closest thing the new country would have as a central bank up to that point. Like the 1st Report dedicated to retiring old debt and establishing a new system of credit, the 2nd Report raised an even greater firestorm of opposition within Congress. Ranking members in the new government, especially Madison and Jefferson but others as well, quickly stated their opposition to the new proto-central bank proposed by the 2nd Report. A broad spectrum of the general public was also opposed. Widespread popular resentment toward banks remained in the aftermath of the depression years, as well as distrust of anything central.

Madison's opposition arguments were both pragmatic and Constitutional—the latter raising once again many of the points made during the Constitutional Convention debates as to why banking and banks should not be explicitly referenced in the Constitution itself.

Madison argued Congress did not have authority under the Constitution to incorporate a bank. The power to grant charters had been debated during the Constitutional Convention and was clearly rejected, according to Madison. Furthermore, he argued, the Constitution was a grant of specific powers only. The Constitution's enumerated powers—for example, laying taxes, borrowing money, etc.—did not include a central bank. And if it did not specifically mention the power to create a public bank that meant the government did not have that power. Banking should be left to the states, whether private or public. Nor did Constitution clauses "providing for Defense and general Welfare" serve as the basis for such a bank. Indeed, many believed history showed that banks had just the contrary impact on general welfare. So too would Hamilton's public bank. A central bank would merely establish "a monopoly of the public moneys for the benefit of the corporation to be created," as one Congressman put it.[15] Nor could the creation of a public bank be inferred from the Constitution's "necessary and proper" clause. A public bank might be convenient, but not really necessary, according to Madison.

Arguing from a pragmatic point of view, Madison maintained the central bank was an economic risk. It was useful for merchant interests and even the government. But it ran the risk of exacerbating and intensifying gold capital flows between Europe and the United States that could cause economic destabilization or worse. Currency created by the bank might also accelerate the exportation of US gold out of the economy to Europe, as wealthy US consumers bought expensive British import goods. Then there was the manner in which Hamilton's bank was proposed—funded from stock subscriptions. Wealthy local investors captured the initial best (lower price) of the stock offerings, while most of the public bought later and at a higher price. Madison added there were the possible negative consequences of a run on the bank, as in the case of any other private bank, only now the consequences would be more serious. He added it was better perhaps to distribute public bank functions among several regional banks instead of one.

The widespread view that Hamilton's public bank was the brainchild of northeastern big-banker interests designed to benefit those interests was summed up in the debates in 1790 by James Jackson, a representative from Georgia, who declared that the bank "is calculated to benefit a small part of the United States, the mercantile interest only; the farmers, the yeomanry, will drive no advantage from it. . . . Not a gentleman scarcely to the Eastward of a certain line is opposed to the bank, and where is the gentleman to the Southward that is for it."[16]

How Hamilton conceived his public bank was best revealed in his 2nd Report. His first argument was that a public bank was needed to continue the credit restructuring that the 1st Report had achieved. He appealed to the example of the economies of western Europe, all of which were creating some kind of public bank. Hamilton noted immediately three specific functions associated with central banking that his public bank provided. First, it would "augment specie" and become the basis of an increase in the money supply in the form of paper currency circulation. This was an argument for what's called "fractional reserve banking." Gold was kept as reserves, from which paper currency was created equivalent to two or three times the value of the gold reserves. The currency was excess reserves that the public bank then could loan out to other banks or businesses for purposes of investment. The lending not only increased the stock of money supply in circulation but also accelerated its turnover, or what economists call the velocity of the money. More money meant more lending, investment, and economic growth. So a kind of money supply management function typical to central banking was envisioned in the 2nd Report, at the center of which was the public bank.

Hamilton next argued that a public bank served as a "greater facility" for the government to secure capital in periods of emergencies. This was the government "loan aggregation" function of a central bank. In addition, the public bank would "facilitate the payment of taxes" and government debts.[17] That is, it would serve as the government's fiscal agent—another classic central banking function. So three basic functions were immediately described in Hamilton's 2nd Report: money supply provisioning, government funding, and fiscal agent for the government.

At this point in his 2nd Report, Hamilton undertook a refutation of some of the arguments against creating a public bank—including charges it would increase usury, prevent other forms of lending, result in over-trading by speculators and "ignorant adventurers," open credit to fraudulent trades, and divert specie flow from the United States. Hamilton answered, "These evils have either ceased, or been greatly mitigated."[18]

Returning to the theme of the "principles upon which a national bank ought to be organized," he revealingly argued that the directors of the public bank should not be elected from the community at large "but by a small and select class of men."[19] Of course that meant bankers and merchants. Twenty-five directors should constitute the bank's board, seven of whom would manage the bank's operations. Stockholders would elect the directors, the directors in turn choose their seven managers and their president of the board. It was all very corporate-like. Leaving little doubt this was first and foremost a private bank run by bankers, "it shall be under a *private* not a *public* Direction, under the guidance of *individual interest*, not of *public policy*"[20] (the italics are Hamilton's). Hamilton argued government control "would, really, be liable to being too much influenced by public necessity.

The suspicion of this would most probably be a canker, that would continually corrode the vitals of the credit of the bank." If the credit of the bank were "at the disposal of the Government," over time that would eventually result in "a calamitous abuse of it." Only the bankers in control could be relied upon.[21]

The federal government put up $2 million, in gold of the bank's total $10 million capitalization to launch it, but the government "ought not to own the whole or a principal part of the Stock" of the bank. If it did, the bankers running it would not have sufficient direct personal interest to properly manage it. But not to worry about wealthy individuals owning the public bank (via stock) or being selected among their banker-investor peers to manage its day-to-day operations, according to Hamilton, since "the Directors will usually be composed of some of the most discreet, respectable and well informed citizens."

How this enlightened management of a public bank by private bankers might exercise fiduciary responsibility on behalf of the "public" and government when it was also encouraged to engage in speculation in land sales was another question. Hamilton left no doubt the public bank would fully participate in land speculation. As he put it, "the Bank could be so constituted as to be made an immediate instrument of loans to the proprietors of land. . . . To procure for the landholders the assistance of loans is the great desideratum."

Hamilton conceded that the government reserved the right to inspect the operations of the bank, which suggested perhaps a kind of ad hoc form of bank supervision of the public bank, if not the banking system at large. And he proposed that the bank pay an interest rate of 4 percent to 6 percent which he believed was sufficient to ensure gold flows into the United States from Britain, instead of the reverse.

SOME CONCLUSIONS

What stands out in Hamilton's views of a public bank perhaps foremost is its acceptable hybrid private-public character. The public bank would clearly assume central banking functions like a crude money supply management via making loans, serving as fiscal agent for the government, and arranging borrowing from the private sector in emergencies for the government. These were all functions that all early central banks performed. However, the structure of the public bank in terms of majority of stock held by investors, investor-banker selection of the public bank's Board of Directors and managing committee, and even its proposed location in Philadelphia all strongly indicated this was a private bank with selective central banking functions—and not truly a public bank. It was a private for-profit bank with limited central bank functions.

There was no pretense of so-called central bank independence in Hamilton's vision. It was purposely structured to ensure private banker control and management. Government was a very junior partner in the affair. This hybrid bank vision was embedded in Hamilton's 1st Bank of the United States that emerged in 1791 based on Hamilton's 2nd Report to Congress. A similar Hamiltonian vision and structure carried forward to the 2nd Bank of the United States that followed, 1816–1836. The National Banking System that arose during the Civil War and continued through the nineteenth century also revealed elements of Hamilton's vision. So too would the Federal Reserve central bank system that replaced it in 1913. There was no fiction that the central bank was independent of government. That was clearly the case. And the opposite theme of central bank independence from private banking interests was never an issue. It was assumed that bankers would run the central bank.

As for other central banking functions—like bank supervision, lender of last resort, monopoly over a single currency, bank clearing house, etc.—all were largely absent from Hamilton's vision. Money supply management was limited to the public bank, somehow setting a kind of benchmark interest rate from its own operations that influenced other private banks' reserves loaned or not.

Hamilton's vision was most fully realized in the 1st Bank of the United States, created to implement his two credit reports. It evolved somewhat in the case of the 2nd Bank of the United States, faded further with the National Banking System of the 1860s and then the Federal Reserve System. However, elements of the vision remained, as they do to this day. But Hamilton's legacy with regard to banking was not always positive.

NOTES

1. The Pennsylvania Bank's function appears to have been primarily to raise funds for Pennsylvania's contribution to the war effort—that is, a basic central banking function. It engaged in little commercial banking activity.
2. This was a model not unlike the Bank of England, from which Hamilton drew many of his ideas for a central bank.
3. However, the bank continued its private business until a new fourteen-year charter was issued in March 1787. This time, the bank was prohibited from investing in real estate and its actions were subject to more scrutiny by state legislatures.
4. Washington even held stock in the Bank of England until the Constitutional Convention in 1787, only selling it just before its convening.
5. Bray Hammond, *Banks and Politics in America*, Princeton University Press, Princeton, NJ, 1985, p. 105.
6. Hammond, p. 105.
7. For the relationship between the massive war debt, the depression, bondholders' revolt, and threat of new grassroots revolutionary action by farmers in various states, see Woody Holton, *Unruly Americans and the Origins of the Constitution,* Hill and Wang, New York, 2007.
8. An excise tax on alcohol and spirits would soon be added as a third revenue source.

9. Conversely, had the Articles of Confederation been able to resolve the debt and depression crises of the 1780s, it is highly unlikely there would have been the Constitutional Convention or new form of government. The history of the United States would have been radically different.

10. *The Reports of Alexander Hamilton,* Jacob E. Cooke, editor, Harper & Row, New York, 1964, Part I, pp. 1–45. Hereafter referred to as *Reports, Part I*. (*Reports, Part II* for the Second Report, December 1790—that is, the National Bank—and *Reports, Part III*, Hamilton's "Opinion on the Constitutionality of the Bank," February 1791).

11. Stanley Elkins and Eric McKitrick, *The Age of Federalism: The Early American Republic, 1788–1800*, Oxford University Press, New York, 1993, p. 271.

12. Woody Holton, *Unruly Americans and the Origins of the Constitution*, Hill and Wang, New York, 2007, p. 258.

13. Elkins and McKitrick, pp. 275–76.

14. The vote in the US House was 39 to 20, with 33 of the 39 votes from New York, Massachusetts, Pennsylvania, and other New England states.

15. Elkins and McKitrick, p. 229.

16. *Annals of Congress, II*, p. 1941, as quoted in Jacob Cooke, *The Reports of Alexander Hamilton*, p. xvii.

17. 2nd Report, p. 52.

18. 2nd Report, p. 61.

19. 2nd Report, p. 68.

20. 2nd Report, p. 71

21. 2nd Report, p. 72

Chapter Three

The 1st Bank of the United States

Congress was strongly predisposed from the very beginning to pass legislation to create the BUS1. A legislative draft was quickly drawn up on January 3, 1791, and passed the Senate on January 20. The opposition was led again by Madison who argued the idea of the bank had been raised during the Constitutional Convention and rejected. In Madison's view what the Constitution did not explicitly permit was implicitly denied to the federal government. There was no authority for a central bank in the Constitution which was completely silent on the subject. A hybrid private-public bank might also lead to a run on the bank with widespread consequences for the entire country, whereas if there were many public banks at the state level, a run on one would not have such an effect, Madison argued. Other arguments included that such a bank would interfere and compete with state banks since it was a private commercial enterprise as well as a public bank; that it might be convenient but not really necessary; and that its stockholders and directors would end up being composed of the wealthiest investors and speculators who would then manipulate the bank to their personal financial advantage.

The argument by the BUS1 opponents that it would lead to destabilizing speculation and enrichment by its wealthy shareholders was evident even before it became law. The bank's $10 million of capital was to be raised from stock offered for public sale beginning July 1791. Buyers had to put a $25 down payment for each share for which they received a scrip, which was an option to buy shares. The scrips were transferable, which quickly led to a speculative "scrippomania," as it was called. Speculative buying of scrip in secondary (and black) markets quickly escalated the price. The price doubled within a week, then rose as high as $150 by August.[1] The scrip speculation spilled over to speculative buying of other government securities as well, which recovered all their prior years' lost value during that summer alone

and fulfilled Hamilton's plans for raising public credit. Well-positioned bankers and politicians had the first opportunities to buy the scrip and with it the stock of the bank. Both scrip and stock prices surged. The stock was bought up by investors in less than an hour of its issue. Thirty members of Congress—more than a third of the total buyers—bought into the bank. Listed initially at $25, the stock rose to more than $300 and sold out within the hour at $400 a share, thus providing a nice speculative gain for the buyers, including the Congressmen who were given first option to buy one third of the total offered.[2]

It was this kind of speculative frenzy that Jefferson and Madison, opposed to Hamilton's bank, feared the BUS1 would inevitably lead to and promote throughout the economy. Jefferson at the time wrote of "the delirium of speculation" and its negative impact on public prosperity as a result of "the rage of getting rich in a day," driven by "the scrip-men." Madison talked about the depravity of "the stock-jobbers" and the "scramble for so much public plunder" as "stock-jobbing drowns every other subject" and creates "an artificial bubble driven by a conspiracy of insiders."[3]

The BUS1 was structured as a corporation, which provided for a twenty-five member Board of Directors. Evidence that the board and stockholders in general were composed of banker-investors (plus Congressmen): twenty-two of the twenty-five directors were from New York, Boston, Philadelphia, and Baltimore—that is, the cities not coincidentally where the four existing commercial banks in the United States at the time were located. In other words, the stockholders-owners of the BUS1 and its managers (board) were overwhelmingly composed of bankers and investors. Since the BUS1 was also a commercial bank, annual dividends were payable to stockholders out of the future profits of the bank. As a central public bank, the BUS1 was given authority to raise loans for the government, as well as issue specie and bills of credit currency as legal tender, payable on demand for gold and silver.[4] It could buy and sell gold, silver, bills of credit, and other currencies and securities but could not trade in goods. The BUS1 was also required to report regularly to the US Treasury on details of its operations.

The law establishing the bank was approved on January 20, 1791, by a vote of thirty-nine to twenty. Thirty-three of the thirty-nine votes in favor were from Senators and Representatives from New England, New York, New Jersey, and Pennsylvania, which revealed the strong influence of the private banking centers in the Congressional vote in favor of the bank. There was little doubt from the very beginning that the BUS1 proposal would be adopted and made into law.

It initially appeared possible that President Washington might veto the legislation. Following the vote, he immediately held private meetings with both Jefferson and Madison, as well as his Attorney General, Edmund Randolph. All strongly recommended a veto based on the Constitutional Conven-

tion debates that specifically rejected reference to a central bank in the Constitution and on the absence of any reference to banking of any kind in the Constitution. Randolph in particular argued the Tenth Amendment to the Constitution explicitly limited the Constitution to those powers it enumerated, and banking was not enumerated.[5]

Jefferson echoed Randolph's view that Hamilton's bank directly contradicted the Tenth Amendment and that no powers except those enumerated belonged to the federal government. For Jefferson, the very foundation of the Constitution itself laid on this ground. Jefferson's main concern with the BUS1 was that it would lead to excessive paper currency creation, excessive financial speculation, debasement of the currency, and inflation. Jefferson was particularly concerned about the close ties between the BUS1 and certain members of Congress and the potential for corruption it might produce, especially as both the BUS1 and Congress were located in Philadelphia prior to the US Capitol moving to Washington, DC. Jefferson spoke of a nation at risk of becoming "under the vassalage" of the BUS1, which was a "powerful enemy" of the Constitution that should be completely subordinate to the federal government. So much for central bank independence!

Madison too was adamantly opposed. In his view the bank was calculated to benefit the mercantile interests in the country, and the yeoman farmers and others would gain no advantage from it.

Reportedly Washington was partly swayed initially by the opinions of the three and asked that Madison draw up a veto for him to sign. But Washington conferred last with Hamilton, thus giving him the opportunity to rebut Jefferson and the others. Hamilton argued, apparently convincingly, that the Constitution provided "implied powers" even if something was not specifically enumerated by it. It was "necessary and proper" for the government to carry out its general responsibilities. It would provide for the "general welfare." So Washington should sign the legislation and not veto it, according to Hamilton. Having given Hamilton the last interview—after Jefferson, Madison, and Randolph—to defend his case for the bank, Washington was apparently convinced by Hamilton not to veto, and he signed the BUS1 bill into law on February 25, 1791. The BUS1 began operations in December 1791. The United States thus began its experiment with its first central bank—an experiment not a few at the time considered by many in violation of the very US Constitution itself.

But the Constitution is somewhat like the Bible. One can find a particular passage or reference to justify one's interpretation, and other passages that justify the opposite. Proponents of the bank had references to "implied powers," "necessary and proper," and "general welfare." Opponents had cited the lack of reference—that is, the silence of the Constitution on the question—and the debates at the Constitutional Convention that did not carry the weight of law as strongly as the statute itself. What determined the eventual fate of

the BUS1 was not justifications by reference to the Constitution but who had the power and thus the votes. And the party of Hamilton and Washington (the so-called Federalists)—the party of northern bankers, merchants and business—had the power.

THE END OF THE 1ST BANK OF THE UNITED STATES

The BUS1's twenty-year charter expired in January 1811. The House voted not to renew the bank by 65 to 64 and the Senate by 11 to 7. Reasons offered for its failure to be renewed are many, including once again those who voted against because of the Constitutional "silence" issue. The main reason, however, was that bankers, investors, and business former supporters of the BUS1 shifted their support to the creation of state-chartered banks, which were spreading in number and place rapidly. As a commercial private bank, the BUS1 competed with the state banks for business—notwithstanding the BUS1's mortgage lending exclusion. State politicians involved in the chartering of state banks often became directors and shareholders in those banks. The profits of those banks, and thus their dividends, depended on the growth of their businesses. The BUS1 often stood in the way not only as a competitor but as an issuer of its own currency that reduced the use of state banks' currencies. These same state legislators then directed their Congressmen to vote against the BUS1 renewal. So local businesses, state banks, and state politicians shifted allegiances from the BUS1 by 1811.

There was yet another way that the state banks, and their local economic and political elites, stood to gain from the end of the BUS1. The large reserves and deposits held by the BUS1 would be redistributed among the state banks in the event of the lack of renewal. This constituted a major cash windfall for the state banks and interests. Similarly, the federal government would now have to deposit its collected revenues among the state banks—another windfall. And, thirdly, the branches of the BUS1 were now sold to the state banks. Due to all three developments associated with the end of the BUS1, the state banks gained significant resources with which to increase their own lending locally—and thus their profits.

There was a political factor as well. While Jefferson's Republican Party in 1791 was strongly anti-BUS1, by 1811 its supporters had started up their own state banks. Party sentiment favoring a central bank weakened. Pro-Jefferson state banks became an important source of economic, and therefore political, power useful for re-election purposes in competition with the Federalist Party which dominated the earliest banks. The Hamiltonian Federalist Party no longer had a monopoly on state banks by 1811. The growing business wing of Jefferson's party was shifting in support of state banks as the

end of the BUS1 charter approached. This, too, influenced the vote outcome not to renew.

Finally, there was also a public opinion and "nationalist" factor involved in the vote against renewal. A good part of the BUS1 stock ownership since 1791 had transferred to the Bank of England as US-Britain trade expanded after 1795. But the Napoleonic wars led to rising tensions between the United States and Britain by 1810 as the latter increasingly interfered with US shipping. Therefore, to strongly support the BUS1 appeared to support Britain. In the popular press, the BUS1 was increasingly referred to as "the British Bank." Given the general political climate, even the directors of the BUS1 reportedly did not aggressively lobby for its continuation.

ASSESSING THE BUS1 AS A CENTRAL BANK

So how did the BUS1 perform as a central bank during the period of its twenty-year charter, from 1791 to 1811? How well did it perform the typical functions of central banking? How effective were its targets and tools for achieving those functions?

During the period 1791–1811, the number of state-chartered commercial banks had multiplied rapidly, exploding from just four to ninety. With that came a corresponding explosion of paper currency issues as well.[6] Hamilton himself participated actively in the creation of several of these in New York, like the Bank of Manhattan and the Merchants Bank. A dozen or more banks were chartered in New York City alone. Money as specie (gold, silver) was characteristically scarce in the early US economy during the period and did not expand much. So it was paper currency that lay behind the multiplication of the money supply. Estimates for the increase in the money supply in circulation by 1811 range from $28 to $50 million.[7]

A consequence of this growth of banks and paper currency (and money supply) was the corresponding growth of fractional reserve banking, as the rapid growth in the number of state-chartered banks increased the ratios of capital (gold and silver) to their paper currency beyond what was considered at the time a "safe" four or five to one. Ten to one and more was not untypical. Moreover, those estimates do not include credit created by other bank-like financial institutions, like insurance companies, mutual savings banks, so-called private banks and banking houses that were also beginning to appear.[8] As the reserves in gold and silver on hand did not grow, and paper currency and notes issues (bills of credit) did, the "fraction" or ratio deteriorated, thus making banks more unstable and susceptible to runs should the real economy eventually contract. Given its charter, the BUS1 did little to control the sharp growth in the number of banks, the flood of paper currency they issued, and the deterioration of fractional reserve ratios and potential for

financial instability. Insofar as control of the money supply was therefore concerned, the BUS1 clearly receives an "F" in terms of performance during its twenty-year charter period.

The bank's poor performance in controlling the issue of paper currency and money supply was, in significant part, a result of the way the BUS1 was structured by Hamilton's proposal and in the subsequent legislation authorizing the BUS1. Perhaps if his proposal had not envisioned the BUS1 as a simultaneous private-public bank, it might have faced less opposition. On the other hand, there was a lot of money to be made at the state level in land speculation as the population moved west. State and local economic interests were not about to turn over the profitable financing of that land speculation to a big private-public central bank like the BUS1 located in Philadelphia. They would, and did, create their own state-chartered banks to realize the lucrative profits from land speculation for themselves. Competition between the state-chartered banks and the BUS1 was thus built into the system itself. The state bank versus central or even national bank competition would characterize the US banking system throughout the remainder of the nineteenth century. So too would the constant speculation in land and real estate thereafter that has been an ongoing source of financial and economic instability in the US economy.

Given the growing divergence between state-chartered banks and the BUS1, the typical central bank function of serving as a clearinghouse for inter-bank transactions was minimally achieved. Where the BUS1 had branches, in the few major cities, it was able to serve as such only partially. The state-chartered banks exploded in number, however, beyond the major cities and into second and third tier urban areas and in the new rural settlements. State banks resented their own currencies being held by the BUS1. The lack of effective clearinghouse services would be a problem throughout the nineteenth century and up to the creation of the Federal Reserve in 1913.

The central banking function the BUS1 performed relatively well was arranging loans to and selling debt of the federal government, that is, lending to the federal government. In its initial chartering, the BUS1 loaned the US government $2 million. As tax revenues did not come in at the rate Hamilton's Treasury anticipated, a series of additional loans followed between 1792 and 1795. "By January 31, 1795, when Hamilton resigned, the total loan amounted to $4.7 million" and rose to "$6.2 million at the close of the year 1795."[9]

Given its private commercial activity integrated with its public, BUS1 lending to the government often led to scandals as its shareholders and directors typically made money from government projects. The government had privileged access to the BUS1 as a commercial bank, a fact which did not endear it to the state banks. The BUS1 arranged loans for the government, but the bank's shareholders (among which were elected government repre-

sentatives) often privately "cashed in" on the connection. This was a political Achilles' heel of the BUS1 and provided ample ammunition for state banks and local economic investors and local political elites with which to attack the BUS1. The size of the BUS1's activities also tended to crowd out state currencies as they accumulated in the BUS1 and expand the BUS1's currency at their expense. The BUS1 issued and injected some $6 million of its currency into the economy. The BUS1 not only failed to curb the issue of paper currency by the state banks but it also issued a significant volume of its own currency as well.

Another area where the BUS1 performed somewhat well as a central bank was its role as fiscal agent for the federal government. In this capacity it paid the interest on government debt to investors, paid salaries of government officials, sold government securities, facilitated the foreign currency exchange operations of the Treasury, supplied gold to the US Mint, served as the main depository of government funds, received payments to the government, and issued notes that constituted part of the national money supply. This was an extensive list of administrative functions that the federal government over time grew dependent on or at least found highly useful.

As for general supervision of the private banking system, the BUS1 had little influence over the state-chartered banks and no direct supervision. BUS1 loans to state banks were minimal. The states and their legislatures "supervised" their state banks, not the BUS1. Supervision became a major issue during the period. The more than eighty newly chartered state banks during the period consisted of both incorporated and non-incorporated; the latter in particular were virtually unsupervised. To the extent there was any bank supervision of incorporated banks by state legislatures, it was done mostly at arm's length, with the states relying on banks to provide periodic reports. Not surprisingly, the banks controlled what kind of information they provided to the legislatures. And since many state legislators were stockholders in the new state banks they chartered, little oversight or regulation took place beyond filing perfunctory annual reports. During its chartered period, the BUS1 did little to provide supervision of the state banks in this vacuum of regulation.

What about the central bank function of "lender of last resort"? Without general supervision and regulatory functions to speak of, and given the escalation of currency-based money supply and deteriorating fractional reserve ratios, one would think banking crises might have been more frequent than they were. That would have seriously tested the BUS1 as a lender of last resort. But the period from 1795 through 1811 was one of rapidly expanding trade for the United States, as Napoleonic war hostilities in Europe led to more exports from the US economy. US exports by 1807 were five times that of 1792.[10] The trade stimulated foreign investment into the United States as well, totaling more than $100 million by 1807. The first decade of the nine-

teenth century also witnessed the early growth of US domestic manufacturing. While there was not yet a general banking crisis (that would come after the BUS1 was dissolved and the wars ended), individual banks did get in trouble and required what today would be called "bailout" assistance. The BUS1 had to provide loans to the Bank of New York in 1796, for example, to keep it from default. This wasn't a general banking crisis and test of the BUS1 as lender of last resort, but a "one-off" event. Even so, the BUS1 often coordinated its lender of last resort function with the US Treasury. Thus, the BUS1's lender of last resort "central banking responsibility was left to the central bank only in part."[11] The BUS1 did hold significant gold and silver reserves, estimated at $15 million, that might have been used for lender of last resort purposes. But it was never called upon to use them in a major bailout scenario.

Central bank targets almost always include price stability. That was true in the eighteenth century, as well as in the twenty-first. How well the BUS1 performed in achieving this target is also indeterminate. Much of the inflation of the period, especially after the European wars intensified after 1795, is attributed to the rising price of imported goods from Europe. This inflation was due to forces beyond the BUS1's influence. Inflation cannot be attributed to the BUS1's failure to stabilize the money supply and the state banks'. The inflation was due to excess production for export and imports, and not from excess money supply creation. To argue that the failure of the BUS1 to control the money supply is what drove the inflation of the period is a classic, "only money determines the price level" view. Such a view was incorrect then, as it is today, unless one is a die-hard "monetarist."

In summary, the BUS1, the first experiment with an official national central bank in the United States, performed central banking functions only to a limited degree. The BUS1 adequately performed the role of government fiscal agent and as the primary source for government loans and credit. But as for controlling the issue of paper currency, and thus the money supply, or supervising the general banking system, it was clearly a failure. Lender of last resort and clearinghouse functions were inconclusive, as was the BUS1 performance in ensuring price stability. The federal government exercised considerable interference in the operations of the bank, at both the director level from the inside (since Congressmen served both in Congress and on the BUS1 boards simultaneously), as well as via the higher levels of government. Interference came from the private sector as well. Representatives of the biggest northeast banks managed the BUS1 as directors. And opposition from state banks often influenced BUS1 decision outcomes.

If the 1st Bank of the United States was largely a failure in terms of most of what are considered central bank functions, the 2nd Bank of the United States that followed in 1816–1836 would prove an equal or greater failed central banking experiment—not only in terms of functions, tools, and tar-

gets but as a consequence of the BUS2 failure to contain the forces in the private banking system that led to a run on the banks in 1814, a serious banking panic in 1819, another panic in 1837, and thereafter the even bigger banking crashes in 1838–1840 and the depression of 1837–1843.

NOTES

1. John Thom Holdsworth, "The First Bank of the United States," reprint of the National Monetary Commission, *The First and Second Banks of the United States*, 1910, Forgotten Books, London, 2012, p. 24.
2. Stanley Elkins and Eric McKitrick, *The Age of Federalism*, New York, Oxford University Press, 1993, pp, 242–44.
3. Elkins and McKitrick, p. 243.
4. For Hamilton's full Second Report on the BUS1, see *The Reports of Alexander Hamilton*, ed. Jacob Cook, Harper & Row, New York, 1964, pp. 44–83.
5. Elkins and McKitrick, *The Age of Federalism*, p. 232.
6. For a table of banks chartered, see Hammond, *Banks and Politics in America*, pp. 144–45. By the time of the creation of a 2nd Bank of the United States in 1816, the number of private, commercial banks had risen further to 246.
7. Hammond, *Banks and Politics in America*, p. 190.
8. Which today would be referred to as "shadow banks" or, if one were an academic, more politely called "financial intermediaries."
9. Holdsworth, "The First Bank of the United States," pp. 44–45.
10. Jeremy Atack and Peter Passell, *A New Economic View of American History*, W. W. Norton, New York, 1994, p. 116.
11. Hammond, p. 202.

Chapter Four

The 2nd Bank of the United States

From the demise of the BUS1 in 1811 and through 1815, the number of state-chartered banks increased from 90 to 246.[1] With no central bank to serve as a break on excess paper and money creation by the growing number of state banks, the floodgates opened on the money supply. Not only were there more state banks, but their practice was to issue paper currency at an accelerating rate as well.

Without a central bank, and with the US federal government now dependent on state banks for loans, the banks hoarded their gold and silver supply by suspending converting gold for paper currency. The suspension raised the price of gold and thus the profits of the state banks due to capital gains from the price increase. Conversely, the value of the paper currency fell, due both to the rise in gold value as well as to the increasing supply of paper currency by the state banks. The private bankers thus enjoyed the best of all economic worlds: no restraints on creating paper currency and the appreciating value of the gold they hoarded. Meanwhile, the federal government, the US Treasury, looked the other way since it was dependent, especially during the war years 1811–1814, on the only source of loans that was now available given the absence of any central bank—that is, the state banks.

Debates in Congress in early 1816 revealed that the amount of paper currency in circulation by the state banks in the five years, 1811 through 1815, "had increased from eighty to ninety to two hundred million dollars."[2] Moreover, this money supply surge was virtually all paper, since the gold and silver (i.e., specie) stock of the United States actually declined from 1811 to 1815. Most of that stock was silver, and in the coin of Britain, Spain, and Portugal. Imports bought by the United States had to be paid in silver specie, so silver flowed out. Simultaneously, US exports to abroad were required by the US Treasury to be paid in gold by purchasers of those exports. So the net

flow of specie (gold and silver) was of roughly equal value. The great increase in money supply in the United States was therefore almost exclusively paper currency and note creation by the state-chartered private banks rather than gold or silver.

The suspension of converting specie on demand for paper was a major problem throughout the period 1811–1816, between the demise of the first US bank and creation of the second in early 1817. Why were the state banks hoarding it? It wasn't as if private banks were collapsing and therefore refusing to convert paper currency for their gold. The banks were in fact very profitable and were even paying dividends to their owners, reportedly in some cases as high as 20 percent annually. In the absence of any central bank supervision they had become quite politically powerful. They were chartered by state legislators and the latter often became directors and shareholders of the state banks. State legislatures and governments would not supervise or regulate the state banks while they were so profitable and they, the state officials, were sharing nicely in the great bounty. And the US Treasury, which might have picked up central banking functions, was reluctant to interfere or supervise the state banks for economic as well as political reasons. During the war years through 1814, the Treasury was desperate to raise funds to finance the federal government defense spending and didn't dare pressure the state banks to do something about the growing problems of suspension of convertibility, specie hoarding, excessive paper currency creation, and the consequences of all of the above in terms of inflation, currency instability, and other consequences for real economic growth.

While the US Constitution specifically barred the states themselves from issuing paper currency, it didn't say that state banks chartered by the states could not issue paper. So in effect the states were issuing currency indirectly, technically not in violation of the US Constitution but certainly in spirit and intent of that document. And by 1815 there were too many of them, with too much state political support (and there were more states now), for the US Treasury and federal government to directly confront and do something about their runaway currency issuance, or the lack of a single national currency, or the absence of any supervision of the private banks that might slow their feeding the speculative land sales bubble that was emerging.

The suspension and hoarding of specie and the excess paper creation were linked. The suspension of convertibility was in part due to excess paper being issued. But if suspension were lifted, and gold for paper convertible again, since so much paper had been issued (and the gold-silver supply had not grown) the banks would easily be "cleaned out" of their hoard of specie if convertibility was allowed. Given the war, 1812–1814, plus collapse of trade with Britain and Europe during the war—which might have enabled the United States to increase its gold-silver supply from trade—just such a run on conversion was highly probable if suspension were allowed. So the state

banks just kept issuing paper and refusing to convert (i.e., suspended conversion) paper for gold. And the US Treasury and federal government stood by and did nothing as the general instability in inflation, currency volatility, and federal government funding collapse continued.

One of the arguments of the day that justified the ending of the BUS1 was that a central bank was not necessary; the US Treasury could handle central banking functions and the state banks could provide loans to the government. That argument still is made today. However, the period of 1811–1815, when no central bank existed and the Treasury did not step in to assume central banking functions, is ample evidence that the assumption is faulty that no central bank is necessary and that the Treasury Department can fulfill the functions of central banking.[3]

Should the Treasury or other agency fail to assume central banking functions, the likely outcome is that states by default would assume the functions. And if the state-level politicians are themselves directors, owners, and shareholders in the state banks, then the private banking system de facto assumes the functions—whether money supply, funding government, self-supervision, lender of last resort, or whatever. That was clearly the lesson revealed during the interim period between the first and second US "central" banks, 1811–1816. Central banking functions must be performed by some institution in any modern economy. The question is just which one? Some federal government institution (central bank, Treasury, or Congressional committee)? The state governments? Or the state banks themselves? The deeper, more fundamental, and important question, of course, is which (if any) is more accountable to the general economy and citizenry as a whole?

If the absence of a central bank after 1811 led to the further acceleration of paper money creation, the logical next question is why did the private banks create so much paper currency in the first place? Was it just because there was no central bank after 1811 to limit that currency creation? No doubt in part. But the BUS1 was never very effective in the first place in controlling the money supply or preventing state bank currency over-issue. So causes of the excessive issue of paper currency by the state banks lay elsewhere.

The reasons for the escalating currency issue were several. First and foremost was the opportunity for state banks to fund speculation in land sales, which began to boom after 1811. This was especially true for state banks in the mid-Atlantic and southern regions where land sales were robust, and less so in New England. Not coincidentally did the Mid-Atlantic region see state bank numbers rise from 25 to 111. Pennsylvania chartered 41 alone in one month in 1814. The rising political power of the state banks was therefore in the "west," in the Ohio valley where farms and towns were springing up everywhere and the Tennessee-Alabama areas that were now being rapidly developed for cotton production. The banks simply issued

whatever currency was required to make loans to speculators and land investors, who then bought the land on the cheap from a federal government desperate for revenues from land sales given the difficulties in generating federal revenue from tariffs, the government's heretofore main source, and the reluctance of the state banks to lend sufficiently to the federal government.

But excessive paper money creation feeding land speculation and settlement was not the only driver of the exploding supply of paper currency; 1812–1814 were war years with Britain, and a major disruption of trade between the United States and European economies embroiled in the final phase of the Napoleonic wars. The war and British blockade served to stimulate new US industries, such as textiles. A period of major opportunities for state bank lending thus arose in addition to land speculation—for example, loans to finance expanding manufacturing in textiles and other industries. And there was yet a third source driving currency: loans by state banks to finance speculation in war-related business and for lending for the purposes of related stock buying and financial schemes. The demand for state bank loans therefore escalated for all the above reasons. Currency creation was enabling it. And there was no central bank to check it.

With the excess lending and currency, inflation and price instability followed. Prices of goods, as well as financial securities prices, accelerated—fueled by the great increase in the paper money supply as well as the British blockade of US trade exports. Commodity prices rose by 30 percent to 70 percent and cotton prices doubled. So the state banks kept churning out paper currency to satisfy the demand for loans for land speculation, wartime opportunities, new domestic industries emerging no longer having to compete with foreign, and to the federal government as well.

During the war years, 1811–1814, the federal government's need to borrow rose sharply. Without tariff revenues—the federal government's prewar main source of revenue—the US government found itself virtually broke. As one Congressman wrote at the time, "The Department of State was so bare of money as to be unable to pay even its stationery bill."[4] Government revenues were primarily from tariffs from trade, and trade had collapsed due to the war. The costs of the federal government conducting the war rose at the same time. The government was selling western lands, but at rock-bottom prices as it tried to maximize revenues from land sales (and thus fueling the land speculation frenzy). The payments for the land sales the federal government received were in paper currencies issued by the western banks, since they were hoarding their gold and silver. Meanwhile, those currencies were depreciating rapidly as well once received. Thus both tariff revenues and land sales revenues were insufficient. And the funds borrowed by the government were declining rapidly in market value. The government was borrowing more and spending less as currency it borrowed depreciated.

The federal government's only other source was borrowing directly from the state banks—another reason why it dared not bring them to heel and allowed the currency creation to grow virtually unchecked. But government borrowing from state banks did not produce the loan volume the federal government needed either. Treasury bond sales were not fully subscribed (i.e., sold), and that which was sold was at a deep discount (i.e., lower than asking price). For example, studies decades later showed the government had to borrow $80 million between 1812 and 1816, but in real value terms, that is, in gold and silver money, the government only realized $34 million from the $80 million borrowed after depreciation of the paper. Virtually all the funds borrowed were in paper, not in gold or silver which the private banks continued to hoard. So the value of the borrowed funds themselves depreciated after the loans were made.

The scenario—from the demise of the BUS1 in 1811 to 1816—was thus dismal and desperate for the economy at large and for the federal government, though not so for the state banks which enjoyed record returns due to suspension, hoarding, and land speculation.

There was no central bank, and central banking functions were not being performed by the state banks in any reasonable sense. The central bank function of providing funds for the government produced insufficient credit and funds to the government. After the 1811 demise of BUS1, "The Treasury now had no one responsible place to turn for quick loans, but must negotiate here, there, and everywhere, encountering varying dispositions and abilities. Its funds were no longer available where it needed them."[5] And for funds it did borrow from the state banks, the value was depreciating. The money supply was out of control. There was no national currency now to serve as an anchor and stabilize the state bank currencies. There were only scores, perhaps hundreds, of different state banks with currencies that fluctuated widely, not only against gold but against each other as well. There of course was no single fiscal agent for the federal government to handle its accounts for trades and interest payments to foreign governments, pay the salaries of Congress and federal employees, and deal with other day-to-day procurements. And without revenues and funds, the US Treasury was unable to perform these fiscal agency functions as well. There was no institutional source to supervise the private banks as they continued to run amok. The Treasury dared not supervise or it might not get the credit and loans it was desperate for. And any idea that the state banks or state legislatures would "self supervise" was a fiction, given so much opportunity for speculation and profit making. Not least, there was no central bank lender of last resort function to rescue private banks that might fail. And that issue came to a head in late 1814, when a general run on the banks occurred, as the British invasion of Washington and Baltimore took place. A Treasury that was broke could not substitute as lender of last resort either. As one representative in the

House from Maryland said at the time, "So completely empty was the Treasury and destitute of credit that funds could not be obtained to defray the current ordinary expenses of the different Departments."[6]

In addition to the failure of central banking functions on all fronts, the traditional central bank target of maintaining price stability was also failing. Prices for commodities and goods were accelerating, as paper currencies depreciated. In New England, where fewer new state banks were being created, currencies were more stable. But in the west they were in steep decline. In Washington and Baltimore, paper currencies had depreciated by 25 percent. As paper was unstable to the downside, gold and silver were similarly unstable but to the upside. Therefore, like goods price inflation, currency stability in general was becoming a problem.

But the private banks—the same that had engineered the dismantling of the BUS1—were now enjoying great profits and riding high in terms of political influence, both over state legislatures and in relation to the federal government. It was a period of complete private bank independence from central government. Conversely, for the government, "it was difficult to conceive a situation more critical and perilous than that of the government at this moment, without money, without credit, and destitute of the means of defending the country."[7]

As early as 1814, given the growing economic chaos and the war with Britain going badly, it was becoming clear the situation could not continue: paper currency creation could not continue to escalate, prices to accelerate, currencies wildly fluctuate, and government continue to be inadequately funded. By 1814 it was clear that the private state banks had issued an excessive volume of loans that borrowers could no longer repay. Prices were beginning to decline rapidly for commodities as well as financial securities. A major run on the banks occurred in late 1814, which was a wake-up call to all.[8]

At this point big eastern bankers who were associated with the major branches of the old BUS1 in Philadelphia and New York stepped in. Leading figures like John Jacob Astor of New York and Stephen Girard of Philadelphia petitioned Congress to create a new central bank. They were holders of large federal government bonds issued under the BUS1, on which the now broke federal government could no longer pay interest. Astor and Girard also viewed the upstart western state banks as competitors. An intra-banking industry struggle broke out—East coast and New England bankers against the rest. Throughout 1815 different proposals for a 2nd Bank of the United States (BUS2) were floated in Congress on behalf of the Girard-Astor east-coast bankers' interests. Various attempts to create a new central bank were floated and failed in 1815. Legislation establishing a new BUS2 finally passed Congress without a presidential veto in early 1816. A 2nd Bank of the United States was created.

THE 2ND BANK OF THE UNITED STATES (BUS2)

The creation of the BUS2 did not end the growth of state banks, their runaway paper currency creation, their speculative practices, or the price instability due to excess currency. If anything, it further stimulated the speculation and currency instability. In the end, the BUS2 would enable an even greater bubble and consequent economic crisis—that is, the first great depression in the United States during 1837–1843.

The primary concern of the new BUS2 was how to get the banks to end their suspension of specie convertibility. If suspension ended, then some ratio of specie to currency could be reestablished. That would limit the amount of paper currency that might be created. With nonconvertibility, the amount of paper creation was potentially unlimited—driven by the land speculation in turn driven by the federal government's sale of lands to desperately provide federal revenue. So how the new BUS2 could convince the state banks to end suspension was the task. The other major objective of the BUS2 was to provide a stable source of government funding and borrowing. Other central banking functions, targets, and tools (establish some reserve requirement rule) were secondary, although they naturally flowed from the main tasks of stabilizing the money supply creation and funding the government.

The BUS2 was created in April 1816, by relatively narrow votes in the House of Representatives (22–12) and Senate (80–71). Like the BUS1, it had a charter of twenty years, and its offices located again in Philadelphia. It provided for twenty-five directors, this time with five appointed by the US President, and twenty "selected" by regional bankers. It had twenty regional branches, whose regional directors and president were appointed by the directors of the bank in Philadelphia. It functioned as the fiscal agent for the federal government. It was again, like the BUS1, a private-public bank—performing central bank functions but also acting as a profit-seeking private bank. Investors could purchase stock, and local private bankers like Girard and Astor bought up the lion's share, as speculation in the stock immediately erupted. In other words, the BUS2 was "owned" and managed by bankers and investors. The legislation creating it required detailed reports to the US Treasury only every three years. The Act did call for the end of suspension by state banks, the BUS2 to have a monopoly over issue of currency, and an end to state bank currency issue—the last two points of which were more wishful thinking than imminent reality. It was funded with $47 million (compared to BUS1 $10 million), which was mostly government "notes" instead of specie. The BUS2 opened for business in January 2017.

By 1817 the economic environment had changed significantly: post war trade was now growing again as was the expansion of domestic industries—like textiles—which had taken root during the war period under government protection. The US economy had begun to industrialize. Land sales, and

speculation, continued to accelerate as the federal government opened up even more lands in the west and south for sale. State banks continued to flourish even more now than they had. The new BUS2 did little to stop the land speculation or supervise the practices of the state banks in any way. It was concerned, as a private bank, in making profits on the one hand, and funding the federal government and somehow getting banks to end suspension, on the other. It engaged in delicate political negotiations with states and state banks to arrange the lifting of suspension of specie convertibility. It had a strong motive not to push too hard on the state banks. The BUS2 therefore exercised a very light hand over the state banks in 1817–1818, and the state banks mostly rejected and flaunted the policies of the BUS2. "In such a situation the restraining powers of a central bank were spurned. All that was wanted was more steam. The Bank yielded. It yielded first to its own greedy stockholders, by helping them get their stock the easiest way possible. It yielded to borrowers in general." And "it yielded to the state banks, which sought to frustrate its pressure upon them for the current redemption of their notes."[9]

Instead of checking the excess land speculation and the practices of the state banks in the west and south, as a private bank the BUS2 branches in those regions simply joined in the frenzy and loaned out its own currency in competition with the state banks. Rather than dampen, it fed the currency escalation and land-price inflation in 1817; in 1817 the BUS2 issued $1.9 million of its own currency. In 1818 that accelerated to $8.3 million. "The boom therefore continued in 1818 with the bank and the US acting as an expansionary."[10]

With the central bank itself jumping into the speculative frenzy in loans for land sales, the state banks viewed the way as clear to step up their own speculative lending and currency creation. The number of state banks grew rapidly, from the 246 in 1816 to 392 in 1818. Forty new banks alone were formed in Kentucky, one of the hotbeds of land speculation in the Ohio valley at the time. The deep southern states were another hotbed, as cotton production pushed west. Accompanying the lending and speculation in real estate were additional new markets for loans—a major growth in investment in ports expansion as trade with Europe recovered; government investment in turnpikes (roads) and other infrastructure; and the continued expansion of new industries like textiles, for both domestic markets and for export.[11] "Federal construction expenditures also helped to further the boom: they rose from $700 thousand in 1816 to over $14 million in 1818."[12] And the BUS2 overextended its lending as well. Not just in its west and southern branches, but in excessive—and questionable—loans to its own stockholders in the Baltimore and Philadelphia regions. Those loans eventually ended up fueling the collapse of more than a dozen banks in Maryland alone soon thereafter.[13]

THE BANKING PANIC OF 1819

After allowing the state banks to continue issuing excess paper currency in 1817–1818 and to intensify speculation in real estate (with the BUS2 contributing to that speculation itself), the BUS2 reversed gears in 1818 and tried to slow the land speculation and overheated economy. To give some idea of the degree of real estate speculation at the time, public land sales in 1816 were approximately $4 million. That escalated by 1818 to $13.6 million. By 1819, $23 million.[14]

In the summer of 1818, the BUS2 "directors realized that the Bank was over-extended . . . and they began to curtail the Bank's operations. Within a few months there was a banking panic, leading to severe deflation and depression."[15] Why did the BUS2 give the state banks a free hand for another eighteen months to continue the policies that they had been prior to the formation of the BUS2 itself? One credible explanation was the US Treasury pressured the BUS2 to allow the state banks to continue their speculative boom that could only end in bust, because the Treasury did not want to antagonize the state banks as it was trying to get them to end their suspension of gold for currency.[16] This go-easy policy was magnified by the Treasury's need to start payments before year-end 1818 on its own $4 million debt to foreign lenders, which had to be repaid only in specie. However, by the summer of 1818 the BUS2 nonetheless began reducing its own lending sharply, by more than three-fourths by the summer of 1819. This pressured the state banks to reduce their lending as well. The previously overheated real estate lending, that had driven up land prices significantly, now contracted. Having peaked at $13.6 million in 1818, public land sales collapsed to $1.7 million. Land prices fell and a wave of defaults and bankruptcies followed. Holders of real estate loans and stocks hustled to sell as prices collapsed. Land price declines spilled over soon to other prices and even export prices. Falling prices for exports led to decline in production for export. Total exports fell from $93 million in 1818 to $70 million in 1819.

It was a classic financial crash. The excessive lending and debt buildup in real estate speculation just before the formation of BUS2 was allowed by BUS2 (and Treasury) to continue escalating in the initial years of BUS2. The central bank then acted to "prick the bubble" and that set in motion a downward spiral of price deflation and sales slowdown. Given the massive overhang of debt (credit for purchases) in the preceding period, collapsing prices now prevented the payment of principal and interest on the debt. Defaults on the loans and bankruptcies followed. The deflationary psychology and facts spilled over to debt incurred for other projects for infrastructure, industry, and manufacturing production for export. No less than $100 million in debt to European banks by US merchants was eventually written off. Cash (liquidity) became "king," as is typical in such situations. As financial assets col-

lapsed in price, investors rushed to hold cash by selling those assets, as cash held its value (or actually rose in value as price deflation occurred). From a condition of excess credit, credit now became scarce or unavailable altogether. Interest rates rose sharply as what little was available to borrow became "expensive."

The overspeculation (driven by excess currency creation) that turned to bust, spilled over as well to the other sectors of the economy. The real economy contracted in tandem, and unemployment rose and wages fell. Unemployment rose significantly in key industries like textiles and iron. Wage data was scarce, but in Massachusetts where it did exist, wages that averaged 60 cents a day in 1811 and had risen to $1.50 by 1818 now fell to 53 cents in 1819.[17] It wasn't until well into 1821 that the economy recovered, exports began to recover, manufacturing activity renewed, and credit became available again.

In terms of discussion of central bank performance, the initial years of the BUS2 reveal that the bank, with the Treasury perhaps in the background involved as well, failed at a number of essential central banking functions. The bust of 1814–1816, following the end of the wartime boom that preceded it, led to the creation of a second central bank. That central bank, the BUS2, permitted a return to the conditions of wartime speculation, excessive credit from currency creation, and so forth, that had created the bust of 1814–1816. Instead, it fueled and permitted another boom, which then bust (in 1819–1821) even more severely than before. If a primary function of a central bank is to provide stability—in money supply, credit, and prices—then the BUS2 failed miserably in its first five years. There was virtually no supervision of the state banks. And when the panic of 1819 occurred and banks failed, neither the BUS2, nor Treasury, exercised lender of last resort activity to speak of. What the bank did do, however, was restore the function of raising funds for the federal government and serving as the latter's fiscal agent. That was probably the government's primary objective in the first place. But ignoring other central bank functions came at a cost.

The track record of the BUS2 in the 1817–1821 period would be repeated before its charter expired in 1836, but this time on an even grander scale of excessive money creation, speculative land investment, and absence of bank supervision. This time the process would lead, moreover, to an even worse banking collapse and economic depression—the first "great" depression in the United States.

COTTON, CANALS, AND LAND SPECULATION

The 1819–1820 banking panic and depression expunged much of the excess debt from land speculation that preceded it. The BUS2's role in aiding and

allowing the speculation in its first two years, 1817–1818, not only contributed to the 1819 panic and subsequent depression but led to its reorganization and changes in management.

The depression reversed the escalating trend in public land sales and speculative lending. Land sales had peaked in terms of acreage sold, from mere tens of thousands of acres in 1813 to more than 6 million in 1819. Thereafter, public land sales declined from their $13.6 million peak in 1818 to $1.7 million in 1820 and $1.3 million in 1821. The Federal Land Act of 1820 had as much to do with the decline after 1820 than did the depression itself. It abolished land sales on credit and required cash only for public land purchases. Under prior land sales laws, only one-fourth down payment was required and the balance payable in three years.[18] Throughout the 1820s decade, land sales averaged around 100,000 acres annually, compared to the peak of 6 million in 1819.

By 1830, however, land sales would once again begin to accelerate sharply, to around 4–5 million acres annually by 1833–1834, exploding to 20 million acres in 1835–1836.[19] What then lay behind the return, at an even greater level, in land sales and land speculation by 1833–1836? What role did the state banks play and why did the BUS2, that had successfully checked money supply and bank real estate speculation during the 1820s, now allow banks to return to speculative lending practices that were so devastating to the economy from 1814 to 1819, once again around 1830? Could BUS2 money supply regulation and bank supervision functions after 1830 have prevented the renewed land sales and speculation frenzy? Or did the BUS2 again feed the frenzy as it had before in 1817–1818? Not least, what were the consequences of the renewed land speculation for the general banking and credit crashes in 1837–1840, that in turn resulted in the great depression that followed.

A key factor stimulating speculation in land again after 1830 was the Land Act of 1830. It called for purchases of 160 acres. Along with retaining the requirement of cash sales only, this larger acre per sale provided an advantage to banks and speculators who had the income to buy the larger blocks of land and then resell it, thereby "preventing the vast majority of the population from bidding . . . the (land) auctions were thus left to those who had money or access to private credit. With relatively few people in the market for land, speculators were sometimes able to buy large parcels cheaply and then resell the property for much more by accepting mortgages from farmers."[20] The reselling by banks took the form of offering farm mortgages to settlers moving west. They might not have been able to buy the land directly in the first place, but could afford to repurchase it by means of a mortgage. And not just farmers. Urban mortgages grew as well, as small towns sprung up throughout the expanding farming regions in the Ohio valley and the northwest. Another contributing factor was the 1830 Act permit-

ted "unauthorized sellers"—that is, squatters—to occupy the land and then arrange payment for purchase after occupation. Speculators and local bankers often paid for the squatters to claim the potentially best land for resale, paid them a fee for squatting, and then purchased the land and resold.[21] Land speculation thus involved a process of purchasing the land easily and cheaply from the government and then reselling it in a local secondary market at a much higher price to farmers and urban settlers. Prices near towns and transport access (water or later rail) typically sold for $10 an acre or more, not the original government price of $1.25 per acre.

By 1830 in the Ohio valley land settlement was limited to the river and at the headlands around Cincinnati. Most of Ohio, Indiana, Illinois, Michigan, southern Wisconsin-Minnesota-Iowa settlement opened up after 1830. A similar process on a large scale was taking place in the South, as cotton producers moved west into the Georgia-Alabama-Tennessee-Mississippi region. Many of the new cotton producers were smaller farms and plantations, requiring mortgages to repurchase the land, and not just large plantations expanding west from the Carolinas and Virginia. In 1810 approximately 100,000 bales of cotton were produced throughout the South. By 1820, 400,000. By 1830, 800,000 but by the end of the 1830s decade approximately 2.2 million bales. That required a lot of land sales and new settlement. And that's what happened, both in the north and the south. In terms of planted acreage for cotton production, the approximately 2 million acres in 1830 had expanded to 5 million by 1840. Much of that surge came around 1835–1836. With the expansion came the land sales speculators, who purchased early and cheaply and then drove up the price of land for resale based on mortgages.

The land speculation bubble after 1830 was thus quantitatively and qualitatively different from that before the panic of 1819 and prior depression. It was driven by several new sources. First, the huge expansion of cotton production westward. Second, a frenzy of land sales associated with canal building. And third, urban-town expansion that followed both the northern and southern land selling. This was the real basis underlying the banking-money supply explosion that financed the land speculation.

To enable the rise in land sales and speculation, the federal government had to accelerate its sale of land. Banks and credit had to grow accordingly as well in order to facilitate the land sales. After having been more or less stable during the 1820s, the number of state banks grew again to 713 by 1836.[22] This did not include the unknown number of unchartered banks and other financial institutions of even more dubious quality that proliferated as well. As for federal land sales, "between 1830 and 1836, the federal government disposed of 72,000 square miles of land. Most of this—50,000 square miles, an expanse equal to the whole of England—was sold in the twenty-four months between January 1835 and December 1836."[23]

And where did the necessary money and credit come from that enabled the sales and banks expansion? To begin with, from the central bank, the BUS2, and later the Treasury. But also now from a third source: From another central bank—the Bank of England—which facilitated the inflow of British capital from various British investors in the form of loans for land investment and other direct investment—both for plantations in the south and for canal building and other infrastructure and manufacturing development in the north.[24] In the north, the availability of money and credit for land sales and speculation also came from the states themselves. They issued state bonds in record number to finance the canal building. The states thus became bankers to the bankers who in turn funneled it to land purchases for canal building.

How the BUS2 contributed to the liquidity (money supply) explosion is as follows: The BUS2 had twenty-eight branches throughout the country by 1830. The central bank served as the fiscal agent for the federal government. In that capacity it received tax and other revenues from local businesses. Its BUS2 bank notes were preferred by businesses and investors, who exchanged their state bank notes for BUS2 notes at the BUS2 branches. The BUS2 branches had the right to "redeem" these state bank notes for specie at the state banks, which the latter now were required to do since there was no longer "suspension of convertibility of paper for specie" in effect. Knowing the BUS2 branches might redeem their state notes at any time, the state banks had to keep extra reserves of specie on hand. That reduced the amount of money, specie or currency, they might lend to land speculators or mortgagees. This was a kind of early central bank tool—that is, regulating the reserves of state banks and thereby money creation by the banks from making loans. It was crude, but a form of what is known as the "reserve requirement" central bank tool option used by central banks to influence the money supply and lending by banks. This is how the BUS2 served to check excessive paper currency creation and lending of the same during the 1820s. But the BUS2 began to abandon the regulation of state banks' reserves after 1832. And given the escalating demand for loans by investors and speculators in land sales about the same time, the state banks simply reverted back to creating currency and lending excessively again after 1832, as they had before 1817.

The excessive money supply expansion—always the source of speculative bubbles—was exacerbated by other exogenous developments during the decade as well. In 1828 Andrew Jackson became president. Jackson was a westerner and, like many in the region, an ardent opponent of a central bank. He and westerners had been greatly harmed by the panic of 1819 and hated the BUS2 and any idea of central banking. Jackson vowed, if elected in 1828, to pull its charter. Re-elected in 1832, in 1833 he immediately declared the

BUS2 charter would not be renewed in 1836. He then vetoed all efforts in Congress to restore and extend the bank's charter.

Jackson immediately followed up his declaration to let the BUS2 die with announcing the withdrawal of all federal funds from the BUS2 and its branches, and distributing them to about thirty state banks, mostly in the west and south. The state banks favored with the redistribution of federal funds "used them to extend their lending, principally for the purpose of real estate, again without maintaining the necessary reserves."[25] Other investors and depositors then began withdrawing their funds in the BUS2 as well. The BUS2 branches began to shut down and the BUS2 turned to winding down its government business and focused, after 1832, on rescuing and maintaining its private state bank side of its business in Philadelphia by preparing to convert to strictly a private bank by 1836. Retreating from its operations from the regions, by 1835 only five of the BUS2's thirty branches still existed. As it progressively withdrew from the regions, especially the west and south, the BUS2 no longer performed the role of trying to regulate state banks' reserves and therefore loans available for purposes of land sales or any other reason.

The BUS2 progressive retreat after 1833 had a double effect on increasing the money supply in the state banks, and thus leading to their escalated lending to land and other sales: First, the private investors' withdrawal of deposits from the BUS2 were redeposited in the state banks. This increased the level of available loanable funds at the banks, that is, their money supply. The state banks then began ignoring reserve requirement levels as the BUS2 branches' ability to influence reserves disappeared. This had a similar effect boosting money supply and lending. However, the even greater effect on boosting state banks' money supply and lending was the redistribution of federal funds to the state banks by Jackson in 1833. It is estimated that $30 million was redistributed, a huge sum given that all the state banks had a total of $80 million at that point.[26] There was yet a fourth and fifth source behind the escalating money supply, however.

Money also flowed into the state banks from Britain, this time in the form of specie. British investors in the early 1830s were experiencing a boom in cotton textile manufacturing which was driving the boom in cotton production in the United States. British investment—focused on cotton development in the south—accelerated, especially after 1833. This was the "real side" economic effect. Since the inflow was in the form of specie, that enabled multiples of paper currency creation on the base reserves of the specie growth. From 1834 to 1836, reportedly, the circulation of bank notes in the United States rose by 40 percent.

The British specie inflow is reflected as well in the level of foreign debt in the United States. In 1833 US foreign debt was about $110 million, about the average it had been for the preceding decade. However, by 1836 it doubled to

$220 million. As others have noted, it "was an immense stimulus to the American economy, and an important cause of the speculative fever in southern and western states." The amount even exceeded the $30 million redistribution by Jackson.[27]

The British investment flow was directed not only to the expansion of cotton production but also to the equally significant boom in canal building in the north. The Erie Canal in New York in 1826 set off the speculation in land along which the canal was to be built. Other canal building projects proliferated in the north, especially connecting rivers and the great lakes and Ohio River. Much of these large projects required debt financing. The British put in large sums, but so did the various states themselves. States from Pennsylvania to Illinois in particular envisioned charging fees for the future transport on canals that would become a major source of state income flow to offset raising other taxes. States issued state government bonds to assist in the financing. State legislators and politicians authorizing the issue of state bonds got in early and bought many of the bonds themselves. They too became speculators. A secondary market in canal bonds emerged where the bonds initially issued at a low price then rose and were sold, making many politicians wealthy as demand rose and they resold the bonds they themselves issued and then initially bought for resale. State bond issues rose from $40 million before 1835 to $89 million by 1838.[28]

Altogether then, the foreign specie inflow from Britain, Jackson's redistribution of federal funds to the state banks, the abandoning of state banks reserves regulation by the BUS2, states' floating of canal bonds—combined with record federal land sales—all led to a "perfect storm" of land speculation and selling. That led in turn to rising debt levels and price inflation. That began with land speculation and land prices, spilled over to commodity prices in general, and thereafter to general prices. While data does not exist apart from public descriptions of runaway prices, the various protests, strikes, and riots against runaway prices in various regions suggest inflation was a serious problem, especially with regard to land values and commodities. For example, the US economy overheated in terms of price inflation, especially for commodity prices as well as real estate land prices. Commodity prices surged 20 percent to 40 percent in all regions, as land prices often doubled, and prices of slaves—a source of physical capital in the south—also doubled.

So a tsunami of money and credit flowed into the state banks between 1830 and 1836, at a time when the BUS2 was exiting the economic scene and abandoning even its weak form of state bank reserves regulation. Not only did the BUS2 therefore fail in exercising the traditional central banking tool use of reserves manipulation, but it failed to achieve the traditional central banking targets of ensuring price and currency stability.

NOTES

1. Murray Rothbard, *The Panic of 1819*, Ludvig von Mises Institute, Auburn, Ala., 2007, p. 8.
2. Bray Hammond, *Banks and Politics in America*, Princeton University Press, Princeton, NJ, 1991, p. 236.
3. An even more radical view, called the "hard money" view at the time, argued that even the Treasury should not participate in creating the money supply. It should be left completely up to the private banking system without any government influence or intervention, central bank, Treasury, or federal government in any sense.
4. Hammond, p. 230.
5. Hammond, p. 229.
6. Hammond, p. 230.
7. Hammond, p. 230, from the verbatim record of Congress at the time.
8. Atack and Passell, *A New Economic View of American History*, pp. 92–93.
9. Hammond, p. 257.
10. Rothbard, p. 11
11. The first US public stock exchange opened in 1817 and the first investment banks were created—all of which added to the speculative trends and overheated economy by 1818.
12. Rothbard, p. 13.
13. John Holdsworth and Davis Dewey, in *The First and Second Banks of the United States*, The National Monetary Commission, 1910, reprinted by Forgotten Books, London, 2012, pp. 162–63.
14. Rothbard, p.37.
15. Peter Temin, *The Jacksonian Economy*, W. W. Norton, New York, 1969, p. 46.
16. Temin further notes that the US Treasury was also responsible for the excessive lending of 1817–1818 that led to the 1819 panic. It apparently pressured the BUS2 to allow the state banks to continue their real estate speculation "in order to induce them to resume specie payments, and to go easy on the state banks in other ways as well."
17. Rothbard, p. 25.
18. Atack and Passell, Table 9.1, p. 256.
19. Atack and Passell, Figure 9.3, p. 257. More than 3 million acres were sold in Illinois alone in 1836.
20. Atack and Passell, p. 266.
21. Studies for land speculators' rates of return (profitability) in the 1845–1860 period shows typical returns of 50 percent to 100 percent and more from land sales. The 1830s were likely not much different. See Robert Swierenga, "Land Speculator 'Profits' Reconsidered: Central Iowa as a Test Case," *Journal of Economic History* 26, no. 1 (1966), p. 25, as in Figure 9.7 in Atack and Passell, p. 269.
22. Alasdair Roberts, *America's First Great Depression*, Cornell University Press, Ithaca, NY, 2012, p. 31.
23. Roberts, p. 32.
24. For the role of land speculation and land price bubbles associated with canal building in the northern states, see Rasmus, *Epic Recession: Prelude to Global Depression*, pp. 128–30.
25. Roberts, p. 35.
26. Roberts, p. 34.
27. Roberts, p. 36.
28. Theodore Burton, *Financial Crises and Periods of Industrial and Commercial Depression*, D. Appleton & Co., New York, 1902; reprinted by Cosimo, Inc., New York, 2005, pp. 280–82.

Chapter Five

Jackson Contra Central Banking

The money supply expansion of the first half of the 1830s decade that fueled speculation in land sales was due to both political developments as well as market forces. Re-elected in 1832, President Andrew Jackson set out to dismantle the BUS2 as a central bank, refusing to renew its charter as it expired in 1836, as he had promised during his election campaign in 1828.

As early as December 1829, in an address to Congress, Jackson declared he would not renew the BUS2 charter. After 1836 the BUS2 would be stripped of its central banking functions, leaving it as a private bank and no longer a hybrid private-public financial institution. Jackson was a westerner and, like many, an ardent opponent of a separate central bank assuming functions that the US Treasury could itself perform. He and westerners had been greatly harmed by the panic of 1819 and hated the BUS2 and the very idea of a central bank. To private bankers in the south and west, the BUS2 was considered an instrument of the northeast banks and moneyed aristocracy centered in Philadelphia, New York, and Boston.

Congress made several attempts to require Jackson to renew the charter, starting with its initial effort in 1832. But Jackson vetoed all the Congressional legislation mandating renewal and did so with subsequent renewal efforts up to 1836 when the BUS2's central banking functions were officially ended.

Upon re-election in 1832 he also announced his intent to withdraw all the $30 million in federal government funds deposited at the BUS2 and its branches. In 1833 he began the withdrawal and redistributing the funds, most of which went to about thirty state banks in the west and south, that is, the region of Jackson's own political base. The private banks in the regions, now favored with the redistribution of federal funds, "used them to extend their

lending, principally for the purpose of real estate, again without maintaining the necessary reserves."[1]

Jackson's redistributing government funds added to the excess liquidity available to the private—chartered and non-chartered—banks for purposes of land sales and land speculation: for canal building; railroad expansion; and construction of new settlements in the Ohio valley, Michigan, Illinois, and the northwest; as well as for expansion of cotton production in the south.

The redistribution and $30 million in new bank liquidity amounted to a major injection of money supply into the private banking system. Little of the $30 million went into increasing bank reserves; most went into state banks that then into lending, "principally for the purchase of real estate, without maintaining the necessary reserves."[2] In other words, as he dismantled the BUS2 from its limited central banking functions and redistributed its federal government funds, Jackson himself was acting as a central bank of sorts by boosting the money supply—moving it out from the BUS2 and into the private banking system in the regions.

With the formal demise of the BUS2 as a central bank in 1836, the US Treasury also began assuming, by default, other central banking functions. These included the most rudimentary central bank function of serving as the fiscal agent for the federal government (i.e., paying government bills) and as the aggregator of loans for the federal government from private banks and investors. The Treasury now began functioning as the central bank, at least in the sense of the most basic central banking functions. Other central banking functions like regulation of the money supply, supervising private banks, and serving as lender of last resort in crises were not so well administered at the time—neither by the BUS2 before the 1837 crisis or the Treasury afterward.

Assuming monopoly over creation of a single paper currency, controlling the convertibility between gold and paper currency, and determining the level of bank reserve on hand in banks in the form of both gold and currency were all critical money supply regulation issues at the time. But the BUS2 had clearly failed to achieve any of these objectives during its two decade tenure.[3] It had failed miserably to bail out the banking system in its early years and its reorganization in 1820 was never tested as lender of last resort again prior to the BUS2 charter being revoked in 1836. It never engaged in bank supervision of the state banks—a function that was aggressively retained by the states themselves. And its ability to manage reserve requirements in the private banking system was poor at best.

Jackson therefore saw the BUS2 as having failed to perform its basic central banking functions defined in its original 1816 charter: The BUS2 did not create the single national currency nor require the state banks to redeem their gold for paper currency on demand of the BUS2. The BUS2 in practice had actually let the state banks off easy by not even insisting that state bank payments to the BUS2 branches must always be paid in specie instead of in

paper currency. Jackson perceived all this as a weakness that in times of crisis—as in 1819—would lead to state banks unilaterally suspending the redemption of their currency for gold. Failure on all these accounts meant, in effect, that the BUS2 also fundamentally failed in its mission and should therefore be terminated. It could restructure itself as a purely private bank after 1836, which it did. But its role in central bank functionality would discontinue with the expiration of its charter that year.

Jackson's legal defense for not renewing the BUS2's charter was based on two arguments: the first was "nonconstitutionality" of the BUS2 as a central bank; the second was his view that the central bank was "not expedient" (i.e., not necessary).

The nonconstitutionality argument had previously been leveled against central banking in general, going back to Jefferson and Madison.[4] While two Congresses and the Supreme Court upheld the constitutionality of a central bank, nevertheless two other Congresses had also declared it unconstitutional—in 1811 and again in 1815. So the precedent was still debatable. Moreover, insofar as the main Supreme Court decision, *McCulloch vs. Maryland*, was concerned with regard to constitutionality, it did not decide definitively on constitutionality. "That opinion did not define whether a bank was necessary or not, but held that a bank was constitutional only if held to be necessary; it was therefore inferred that if the legislative branch (i.e., Congress) held that if the bank was unnecessary, it was unconstitutional."[5]

So far being expedient and necessary, Jackson, like others at the time, believed the Treasury could just as readily perform the obvious functions of fiscal agent, as well as aggregator of private loans for the federal government. The Treasury didn't need to "farm out" this function to a private bank. At minimum, the Treasury might perform no worse than the BUS2 in requiring private banks to convert specie to currency on demand. And would probably do better.

Furthermore, private bank supervision and lender of last resort were functions that should be left to market forces, he believed. As a follower of the western notion of hard money, Jackson believed the market should be allowed to regulate the private banks—not a central bank. If private banks overextended themselves with high risk loans to speculators and/or failed to keep sufficient reserves for emergencies, then the market would weed them out. In his second address to Congress in December 1830 Jackson elaborated further on the two themes as his basis and opposition to renewal of the BUS2 charter.

Underlying Jackson's legal-constitutional reasons lay his personal view that a central bank was an institution that enriched private individuals—bankers and their rich stockholders—often at the expense of the rest of the economy. A central bank always ended up too closely integrated with one or more big private banks. Its directors tended to be directors as well of other

private banks. Big Philadelphia and New York bankers would come to dominate the rest of the banking system through the vehicle of a central bank. And in the case of the BUS2, this appeared to actually be the case. There were twenty-five directors who governed the BUS2 and made its decisions as a committee, only five of whom were appointed by the government. The management of the bank was therefore structured so it remained firmly in the hands of the most influential twenty private bankers. And in the case of the BUS2 this meant mostly the large Philadelphia and New York bankers. The BUS2 was also a corporation with stock, and the sale of the stock was arranged so that the bank's twenty bankers and merchant directors financially benefited the most. They were also holders of the majority of the stock issued by the BUS2.

Why should the central bank be a corporation in the first place, Jackson argued? Couldn't the US Treasury, more accountable to the voters through election of the president, perform the same central banking functions? Why should a public bank like a central bank make private loans, invest and acquire property, and enrich its stockholder-directors? Why shouldn't profits from its operations go to the US government and for other public purposes? In short, why should a private, profit-seeking bank be given public central banking functions as well?

Jackson was especially disturbed that an unknown amount of the specie of the BUS2 was being diverted offshore to foreign stockholders of the bank. And the BUS2 refused to provide the names and addresses of foreign stockholders in its reports to the states and to Congress. How many and what was their financial position in, and potential control of, the bank was unknown. How much power did the foreign stockholders actually exercise over the bank, Jackson queried? While they couldn't serve as directors of the bank, they could form alliances with other wealthy US directors that would influence the bank's decisions and even lending. Being unknown, foreign stockholders were also effectively exempt from taxation. The opaque foreign connections of the BUS2 were particularly irksome to Jackson.

Thus Jackson was clearly in the camp that was not convinced of the constitutionality of a central bank per se—let alone the BUS2 with its questionable structure, private and foreign influences, and obvious failure to perform central banking functions for which it was originally chartered. And he clearly considered it unnecessary, since the limited central banking functions at the time could be performed by the Treasury.

For Jackson the issue went even deeper than constitutional-legal issues, however, or the role of private banker directors, domestic and foreign, in the bank's decision making. The fundamental problem was that the BUS2 was a private bank as well as public bank. It was a hybrid. As a private bank, like all such banks, the BUS2 was potentially a source of economic instability and economic harm to the general public—as the events of 1818–1819 had

clearly shown.[6] Jackson was convinced the private-public hybrid of BUS2, "the many headed hydra monster" as he called it, would eventually lead to the same destabilization of the economy as had its predecessor, BUS1.

The BUS2 exercised partial central banking functions: fiscal agent and loan aggregation. It exercised insufficient influence over reserves, single paper currency creation, and specie-currency convertibility. It exercized virtually no supervision of the private banks. And never functioned as lender of last resort. But with the demise of BUS2 the Treasury soon would be tested with regard to supervision and bank bailouts after 1836, especially in 1839–1841 when bank failures in the hundreds occurred as the 1837–1843 depression deepened.

FROM BUS2 CHARTER TO PANIC OF 1837

The speculation and land sales bubble was well under way as early as 1833, driven by escalating land sales by the government to accommodate westward expansion of cotton production in the south and canal building in the north. Between 1830 and 1836 more than 70,000 square miles of federal land was sold, 50,000 square miles in just the last two years of the boom, 1834–1836.[7] Land sales through the 1820s decade yielded less than $2 million a year in federal government revenues. During the three years, 1834–1836, land sales revenue accelerated to $5 million in 1834, $15 million in 1835, and $25 million in 1836.[8]

State-chartered and non-chartered local banks grew rapidly during the period, providing the institutional framework for redirecting the exploding liquidity into the resultant boom in land sales. State bank charters, which were issued by the separate states at the time, grew from 329 in 1830 to 713 by 1836.[9] Parallel to the surge of growth in state-chartered banks was a simultaneous expansion as well as thousands of non-chartered private banks and savings institutions.

Both chartered and unchartered state banks issued their own bank notes and even paper currencies. Bank notes in circulation increased by 40 percent in just the two years, 1834–1836. Adding to this, Jackson and the federal government had distributed all the $30 million of the funds formerly held at the BUS2 to the state banks by 1836, further boosting bank lending and land speculating. The BUS2 did little to limit state banks' excessive money creation and lending. As a private bank, the BUS2 actually participated in the highly profitable speculative boom in land sales between 1830–1836.

State governments added even further to the excess liquidity and credit. State governments issued bonds to finance canals and other infrastructure, including the new tech boom in early railroads—often in partnership with their state-chartered banks. Since state governments derived little if any in-

come from taxes at the time, bond interest income was an attractive source of state income and alternative to raising taxes. And there was another problem: State legislatures partnered with the state banks they chartered in financing canal infrastructure building. Many state legislators sat on the boards or served as directors of the same state banks to which they issued charters, personally profiting in a classic conflict of interest arrangement. State bond issues for canal building and infrastructure rose from $40 million in 1830–1835 to $108 million in 1835–1838.[10] The collapse of canal and infrastructure bonds after 1837 would result in nine of the states going bankrupt, along with hundreds of their state-chartered banks.

The excess liquidity fueling the speculative boom in land sales for canals, railroads, expanded cotton production, and construction was not limited, however, to private banks' notes and currency issues, to Jackson's $30 million redistribution, or to states' bond offerings. Foreign sources also simultaneously injected massive liquidity in the form of specie into the US economy. British capital especially flowed to the United States after 1830, seeking higher US interest rates and new investment opportunities in canals, cotton, and railroads. As US interest rates rose above British rates, gold flowed in large volume from Britain to the United States.[11] From 1833 to 1836 US borrowing of foreign capital accelerated from $100 million to $220 million.[12]

But there was still more. British external credit was supplemented further by other external silver and gold inflows by mid-decade: Mexico investors sent their silver to the United States to shield their assets from growing political instability in their country at the time. And gold payments of $4 million were paid by France for US claims for shipping losses from 1790 to 1814. The US gold and silver stock escalated from $30 million in 1832 to $89 million by 1837, nearly tripling.

Thus, a unique convergence of domestic US and foreign sourced money and credit—that is, bank notes and paper currency issues, government distribution to banks, state-issued bonds, and external specie inflows from various sources—fueled the speculative land sales and related construction and cotton agricultural production booms.

By 1835–1836, money supply expansion—both in specie and currency form—was completely out of control, fueling ever-greater volume of sales and speculation in land, driving up land and commodity prices to bubble levels: From 1833 to 1836 the rate of growth of the money supply in currency alone rose by 16.5 percent on average annually. In 1835–1836 it peaked even higher. The annual money supply in specie form rose 19.2 percent on average.[13] The money supply surged from $114 million to $276 million; specie from $31 million to $76 million.[14] Most sources also assume that the price level rose by 50 percent over the last three years of the land boom and bubble.

In March 1837 the land speculation bubble began to burst and the panic of 1837 began. In late 1836 federal land sales contracted sharply by 30 percent compared to the previous year average. Land prices in the west fell by two-thirds. The land sales and price deflation that began in late 1836 was precipitated by two fundamental events. The first was the decision by Jackson and the US Treasury to try to stem the runaway land speculation and land price bubble. In July 1836 Jackson announced what was called the "Specie Circular." The "Specie Circular" ordered that US land could no longer be purchased by paper currency or notes of the state banks. Henceforth federal land was to be purchased only by specie. That summer the Congress also passed the Distribution Act of 1836 that required big New York and Philadelphia banks to redistribute some of their deposits by the federal government to the banks in the west and south. That had the result of reducing bank lending in the northeast region that dampened land sales associated with canal building, railroads, and construction there as well.

The second key event was the Bank of England's concurrent decision to reverse its previous policy that kept British interest rates below those in the United States that resulted in a major outflow of British gold which, noted previously, contributed significantly to the excess liquidity in the United States that fueled the speculation in land and US transport infrastructure. The Bank of England's reserves had depleted seriously by the outflow, as well as due to having to stem crises in Irish banks in late 1836 and emerging crises in British trade financing institutions. The Bank of England therefore began to significantly raise its interest rates in order to redirect specie back to Britain. Large amounts of specie began flowing out of the United States and back to England as its central bank raised rates once again. The result of the British specie outflow, the US Specie Circular, and Congressional legislation was the sharp contraction of liquidity now in the US private banking system.

The contraction set in motion by the Specie Circular and the Bank of England had further "knock on" negative monetary effects: US depositors in state banks withdrew their money in expectation of mortgage, land contracts, and bank defaults, which further reduced money supply and credit. British investors pulled their money out of canal building and other infrastructure projects in the northern states as bond defaults rose.

The US money supply and, in turn, land sales began to contract sharply beginning early 1837. Commodity prices in the United States began to plummet, cotton falling by 30 percent by April 1837. Brokers and banks from New Orleans to New York began to default. As Jackson feared, banks began refusing to convert (redeem) their bank notes and currency for specie. Gold and silver hoarding contracted the money supply (and velocity of money in the system as well). Defaults and bankruptcies followed, spreading beyond regional banks, construction, and agriculture to the rest of the economy at large, as credit in general froze up.

FROM 1837 PANIC TO DEPRESSION OF 1838–1843

The financial panic of 1837 did not immediately descend into a bona fide economic depression. Depression trajectories never proceed in a straight line downward. They are often preceded by an initial financial crash, followed by a brief "dead cat bounce" financial and real economic recovery. The latter often proves short-lived and shallow. In the interim, the lack of credit continues to undermine the balance sheets and financial viability of banks, while the inability to refinance and/or pay for prior loans by non-bank companies deteriorate. The worsening conditions soon leads to a round of bank failures that significantly exacerbate the conditions, resulting in still further credit contraction, and leading to a banking crash. It is the banking crash(es) that drive the economy into a bona fide depression.

The 1837 panic was actually followed by a short and brief recovery in 1838, which then collapsed again in 1839–1840 due to a series of banking crashes that ratcheted down the real economy in stages deeper into contraction. As banks again hoarded their specie, and credit contracted further, the real economy contraction deepened beyond real estate. Nonbank defaults and bankruptcies spread causing general prices to fall still further—not only for land, bonds, and property prices, but consumer and producer goods as well.

The transition period—from an initial financial panic and market crisis to the subsequent banking crash(es)—is what this writer has defined as an "epic recession" prelude to a global depression;[15] 1838 was just such a transition period.[16]

During that year of temporary "recovery," liquidity in the form of specie flowed back into the United States from Britain as it once again lowered British interest rates which sent British capital seeking higher rates in the United States. New York banks reportedly also received loans in specie of one million dollars from the Bank of England. US banks began to convert gold for notes once again. The US economy appeared to recover in 1838. In early 1839, however, the British economy was once again in trouble. Running short of reserves, the Bank of England raised its interest rate to 6 percent in May 1839, the highest in its history.

Fooled by the false recovery of 1838, US banks invested heavily in cotton, assuming the low price of cotton in 1838 would soon, in 1839, rise rapidly and provide a significant speculative profit. But cotton prices collapsed once again in early 1839 resulting in the inability of the banks to finance the large debt they assumed in 1838 buying up the cotton. In early 1839, US banks issued larger amounts of short-term debt to cover and buy time. But when the debt started coming due in late 1839, banks once again started suspending conversion and hoarding their specie. By 1840 many could not service the debt previously incurred and defaulted.

By then the BUS2, incorporated now as a private bank in Pennsylvania, was especially mired in the speculation and short-term debt scenario. When London investors refused to bail it out in early 1840, it suspended payments. In January 1841 it formally went bankrupt. Its suspension and collapse spread contagion rapidly throughout the banking system in the United States during 1840. Banks in the west and south also suspended convertibility and hoarded specie, or themselves collapsed. Reportedly, "almost 90 percent of banks in the west and south had either suspended or collapsed by January 1840."[17] By 1842 two hundred banks had permanently closed.

The general banking system collapse, especially in the west and south, precipitated an even deeper real economic contraction. Severe asset and commodity price deflation set in after 1838, followed by more bank suspensions, debt payment defaults, and bank closures. Land prices fell dramatically. The general price level contracted 42 percent from 1839 to 1843.[18] Bank defaults and failures led to sharp reduction in available credit to other banks and non-bank businesses.

The huge volume of debt accumulated during the boom phase leading to 1837 meant heavy debt-servicing payments followed by an inability to obtain new credit and falling prices. Many companies ended up in default. Some sources estimate that 33,000 businesses failed from 1837 to 1841.

The post-1838 contraction was exacerbated by the debt and defaults of state governments that had partnered with local state banks in land speculation. A number of state governments that had participated in the speculative frenzy ended up repudiating their debts. Some states actually owned their own banks. Forty million dollars had been borrowed by the states from 1830 to 1836. Another $100 million in just two years, 1836 to 1838. Beginning in March 1840 states began to default on their bonds. Nine states and Florida, a territory, would eventually do so. Thus states defaulted as well as banks and non-bank businesses.[19] Real asset investment fell sharply in the commercial and industrial sectors of the economy. The outcome was "it appears that there was a severe and protracted depression."[20]

The general money supply fell by 34 percent from 1839 to 1843. With the money supply and credit rapidly contracting, the general price level fell by 42 percent.[21] Real investment in infrastructure, structures, equipment, and cotton and textile mills contracted by 23 percent. Railroad construction fell by two-thirds and canal construction by 90 percent. Goods imports collapsed as well.

The severe extent of this money and price contraction in 1837–1843 is apparent when compared to the Great Depression of the twentieth century a century later in the 1930s. The money stock declined by 27 percent during the 1930s Great Depression and the general price level by 31 percent.[22] The contraction of 1837–1843 was therefore even more severe in some ways than

the Great Depression of the 1930s with even greater money supply contraction and price deflation.

A new president elected in 1836, Martin Van Buren, took office in March 1837 just as the panic and crisis unfolded. The rapidly deteriorating conditions spawned various recovery proposals. One in particular was relevant to the topic of central banking. While some politicians attempted to resurrect a new central bank along the lines of the old BUS2, the widespread popular discontent with the BUS2 and banks in general at the time prevented such measures. On the other hand, general public opinion was that the federal government had lost most of its revenue that it distributed to the state banks—most of which by now were defunct or had begun hoarding what remained of their specie. This loss of hard-earned tax and tariff accumulated federal funds generated a call for establishing an "Independent Treasury."

The essence of the Independent Treasury idea was the federal government would bypass the state banks and keep its funds and expenditures separate, completely outside the state bank system. Opponents argued that this would mean the federal government would forfeit a lever with which to influence state bank behavior. Those defending the idea argued back that history showed depositing federal tax and tariff revenues in state banks had produced little leverage or supervision over state bank excesses in any event. And that the federal government had little authority anyway to try to regulate banks that were to be regulated, per states rights, by their respective states.

A Treasury truly independent of the private banks raised the possibility of creating a full measure of central banking functionality within the Treasury—rather than some hybrid institution like a quasi-government hybrid central bank. But banker interests, both in the United States and abroad, were strongly opposed. Van Buren and other politicians prevaricated and delayed. The brief recovery of 1838 reduced pressure to pass the legislation and create such a US Treasury as central bank. But the renewed economic crisis in 1839 resurrected the idea, and the Independent Treasury Act (sometimes called the Divorce Bill) was passed in July 1840 in the midst of a growing radicalization against banks by the populace in the general election in November 1840.

Political elites of both parties at the time—Whig and Democrat—were polarized on whether the Treasury should become a de facto central bank itself. Powerful, pro-banker voices like Henry Clay in the Senate proposed the revival of another central bank along the lines of the BUS2. The new president, John Tyler, opposed both the revival of a BUS3, as well as an Independent Treasury. Tyler signed the repeal of the 1840 Independent Treasury Act in August 1841. Congress thereafter proposed a new "Fiscal Bank of the United States," which Tyler vetoed as well. The US economy stumbled along from 1841 under depression conditions until March 1845 when another new president, James Polk, assumed office and signed an act re-establishing the so-called Independent Treasury once again.

What the Independent Treasury bills and acts represented at one level was the widespread awareness that the private banks had exerted excessive influence over the BUS2 as a central bank. If framed in the context of the idea of "central bank independence," it was clear that independence in the 1830s–1840s meant independence from the private banks—not from federal government politicians—which the concept of central bank independence has come to mean in the twentieth and twenty-first centuries.

The Independent Treasury Act of 1846 became the institutional arrangement that would prevail until the passage of the Federal Reserve Act in 1913. But the Independent Treasury did not become a central bank per se. It did function as aggregator of loans for the government—beginning with the 1846 War with Mexico and other wars that followed. It also functioned as its own fiscal agent—that is, paying the federal government's bills. But other essential central banking functions associated with reserves setting and money supply regulation, monopoly over paper currency issue, private bank supervision, and lender of last resort—to name the most critical—were not exercised in any significant way, if at all, by the US Treasury.

In short, there would be no true central bank carrying out central banking functions throughout the rest of the nineteenth century, and well into the twentieth, in the US economy. Only rudimentary central banking functions by a US Treasury whose primary (and virtually sole) central banking function was soliciting loans from private bankers and investors with which to help finance US wars and military services and equipment expansion. The remainder of the history of the nineteenth century would reveal that this kind of US Treasury as minimalist central bank would perform no better than the BUS1-BUS2 hybrid central bank institutional form. Even greater depressions than 1837–1843 would follow in the 1870s and 1890s.

THE DEBATE: JACKSON AND CENTRAL BANK INDEPENDENCE

Today economists look back on the BUS2 versus Jackson event and limit their analysis to whether Jackson's interference with the central bank caused the panic of 1837 and subsequent depression. Central bank independence is thus viewed with just one eye open from the perspective of government politicians' interference with a central bank's function and not whether private bankers' interference with the central bank was responsible for the panic and depression. The opaque assumption is that the BUS2 as central bank, if left alone to be run by bankers who know best, would not have caused the panic and depression of 1837–1843. The unaddressed possibility—that the bankers themselves exerted too much interference in the operations of the BUS2 and that contributed significantly to the crisis—is ignored.

Analysis of central bank independence should raise the question: independence from whom? And that's always a two sided question. Interference in carrying out central bank functions by private banker interests? Or interference from government politicians?

It is quite possible to argue that the federal government's land policies alone were not sufficient to produce the intense land speculation and bubbles of the 1830s. Nor were the distribution of federal funds from the BUS2, the Specie Circular, or the Distribution Act of 1836—together or separately—responsible for the financial excessive risk-taking by the private banks in the 1830s that led to the subsequent 1837 panic, the bank insolvencies of 1838–1842, and the depression of 1837–1843.

Even if Jackson had let it alone and renewed its charter, the BUS2 could not have prevented the speculative boom in land and the subsequent banking panic and depression. It simply was not structured to do so. It lacked not only sufficient authority but the monetary tools as well. Even if it had a monopoly over a single paper currency, the power to enforce specie-currency convertibility, and other authorities, it still would likely have failed to prevent the crisis. It could not effectively supervise, regulate reserves and money supply, or bail out the banks. It clearly would not have made any difference if Jackson had left the funds with the BUS2, as banks were creating notes and currency in far greater volume. And specie flows from Britain were even larger than the Jackson action to withdraw and redistribute government funds. Moreover, when the credit contraction began, the effect of the Specie Circular and 1836 Distribution Act on money and credit was far less than the massive outflow of specie money back to Britain in 1837–1838 and after 1839. Nonmonetary forces also existed such that an even more functional BUS2 could not control. Given the cheap excess available land, the new technologies driving cotton production and its global demand, the expansion of the US market westward driving canal building and thereafter the more efficient railroad construction, the need for states to raise revenue, and the shoddy private banking practices of the time—all meant that even a hands-off policy by Jackson would have made little difference to the outcome. Far more fundamental technological, monetary, natural resources, foreign asynchronous business cycles in Europe, and even cultural forces would have produced similar—if not precisely the same—consequences of panic and depression.

Contemporary economists unfortunately pay little attention to such broader historical conditions and forces. They tend to rely on more easily identifiable government policy shifts as explanations for crises events like financial crashes and economic depressions. Those who argue that a central bank must function independently of government and political influence cite the Jackson/BUS2 conflict as evidence that government interference creates a lack of central bank independence that leads to economic and financial instability.

But Jackson's decision concerning the BUS2 charter, funds redistribution, and the subsequent Specie Circular did not cause the panic of 1837 or subsequent great depression of 1837–1843.[23] Jackson may have contributed, perhaps even accelerated the process. But the process that led to financial instability and depression was already well along before Jackson acted. The root cause lay less in government action than in the private banking system's inherent tendency toward excessive risk-taking, speculative investing, and overcommitment of reserves whenever excess liquidity is injected into the banking system. That excess liquidity—from both domestic and foreign sources—was far more fundamental to the speculative land bubbles than government policy actions.

Land and real estate speculation is almost embedded in US economic "DNA." It's part of the US history consistently from its founding and even before. It keeps erupting. The BUS2 could not, and did not, prevent the reemergence of excessive land speculation and land price bubbles. Technological changes were making cotton extremely profitable, both in terms of agricultural production and textile manufacturing. Demand for US cotton and related exports by Britain was rising rapidly in the 1830s—given the constant inflow of wealth from its many global colonies. In the north sector of the United States, technological changes in farm equipment—steel plows, mechanical threshers and harvesters, and so forth—were also driving agricultural productivity and profitability. Transport revolution in canal waterways, inland steamships, coal and iron production, and the early railroads meant goods brought to market in record time.

The speculative boom and subsequent bust was therefore inevitable and would have happened regardless of what Jackson did. His actions may have influenced the pace and timing of the boom and bust, but not prevented it. Contemporary economists generally fail to distinguish between precipitating, enabling, and fundamental causes behind the buildup to financial crises and the subsequent crashes and descent of the real economy into depression in turn.[24] Jackson's action played a precipitating role. But it was the freedom of bankers and investors to speculate in land sales virtually unregulated that largely enabled the crisis. And even more fundamentally, it was the availability of massive liquidity from various sources that served as the foundation of it all. Without the liquidity, the borrowing and debt acceleration—upon which the land sales bubble was built—would not have been possible. In short, the crisis was inherent and intrinsic to the banking system itself. Jacksonian policy may appear as causal, but it was not fundamentally so.

NOTES

1. Alasdair Roberts, *America's First Great Depression*, p. 35.
2. Roberts, p. 35.

3. In contrast, the Bank of England was able to assert a monopoly over a single currency with the Bank Acts of 1844. The US banking system remained dominated by private banks creating hundreds of their own paper currencies, while refusing to cooperate with the BUS2 in converting their gold reserves to paper. BUS2 efforts to influence reserve requirements at the banks, and thus the money supply, was doomed given these failures.

4. Both Jefferson and Madison came to reluctantly accept the idea of a central bank after the Supreme Court ruled several times in favor of the bank on the constitutionality and expediency issues. But neither felt totally comfortable with the idea of a central bank. Both were concerned about banks in general and viewed them in part as a threat to US democracy.

5. Davis Dewey, "The Second Bank of the United States," in Holdsworth and Dewey, *The First and Second Banks of the United States*, p. 253.

6. The BUS2's role in the banking crisis of 1839–1841, when it was solely a restructured private bank, verified Jackson's view of the BUS2's tendency to destabilize the economy.

7. Roberts, p. 32.

8. Temin, *The Jacksonian Economy*, p. 88. After the panic of 1837 and recession began, land sales revenue would contract again to around $2 million a year.

9. Roberts, p. 31.

10. Richard Sylla, *Financial Disturbances and Depressions: The View from Economic History*, Jerome Levy Economics Institute, Working Paper No. 47, April 1991, p. 6.

11. Atack and Passell, p. 100. The British inflow would surge to $10 million by 1838.

12. Roberts, p. 36.

13. Atack and Passell, Table 4.1, p. 100, source: Hugh Rockoff, "Money, Prices and Banks in the Jacksonian Era" in *The Reinterpretation of American Economic History*, Robert Fogel and Stanley Engerman, eds., Harper & Row, New York, 1971.

14. See Temin, Table 3, "The Supply of Money and Its Determinants, 1820–39," *The Jacksonian Economy*, W. W. Norton, New York, 1969, p. 71.

15. See Rasmus, *Epic Recession: Prelude to Global Depression*. Chapters 1–3 define "epic recession" in both qualitative and quantitative terms, differentiating the event from contemporary and superficial definitions of "great recessions" as well.

16. Historically, the period following the 1907 financial panic was also a transition, followed by several short and shallow double-dip recession. Transition "epic recessions" thus need not necessarily result in depressions. The key is whether banking crashes follow the initial financial panic. In the case of 1907 they did not, in contrast to 1838 in which they did, and precipitated the deeper depression period that followed the transitional 1838 year. Historically as well, the 1929 financial stock market crash was an initial financial crisis, followed by an "epic recession" of 1929–1930, which was thereafter followed by four annual banking crashes in late 1930, 1931, 1932, 1933. It was the series of banking crashes that drove the US economy from an epic recession into a bona fide economic great depression of 1930–1933.

17. Roberts, p. 47.

18. Temin, Table 5.1, p. 157.

19. Richard Sylla "U.S. Securities Markets and the Banking System, 1790-1840," *Federal Reserve Bank of St. Louis Review*, 80, no. 3 (May–June 1998), p. 92.

20. Sylla, *Financial Disturbances and Depressions*, p. 7.

21. Temin, p. 157.

22. Atack and Passell, p. 102. These estimates are roughly the same from Temin, p. 157, that compare the 1837–1843 depression with the 1929–1933 depression period. The former event was even more severe in terms of money supply contraction and price deflation. But the number of bank failures was greater in 1929–1933, as more than 40 percent failed, compared to about one-fourth during 1837–1843.

23. See Temin's introduction and early chapters for his critique of the "Schlesinger View" that Jackson caused the Panic of 1837 and subsequent descent into depression.

24. See Rasmus, *Epic Recession* for a discussion of precipitating, enabling, and fundamental causation.

Chapter Six

From "Free Banking" to National Banking

The great depression of 1837–1843 ushered in a long period of what was called "free banking" that lasted until the outbreak of the Civil War. There not only was no central bank, but private banks no longer even had to be chartered by states. In many cases, anyone with a couple thousand dollars could start a bank with no questions asked. For the next two decades of the 1840s and 1850s there were virtually no central banking functions being performed at the federal level, except for the US Treasury raising funds from private investors and acting as fiscal agent for the government.

It was "wild west" banking. Neither state nor federal government played any significant role in managing the proliferation of the thousands of private bank note and currency issues, trying to systematically regulate bank reserves or the general money supply, to maintain price stability, or to perform other traditional central banking roles like bank supervision or lender of last resort.

The shift to free banking was in part due to states having been burned by their involvement in financing canal bonds and by allowing state politicians to serve as bank directors during the speculative boom prior to 1837, the bust that followed, and the subsequent depression. Nine states defaulted on state bonds during 1837–1843 in the rush to build canals and infrastructure from which they hoped to receive some tax revenue. Public pressure demanded state governments withdraw from their heavy direct involvement with banks and their disastrous speculative investing in land, canals and other infrastructure projects. It was a period of popular grassroots radicalization often overlooked in historians' account of the economy of the period. The mid-1840s was also a period of slow recovery from the depression.

FROM 1837–1843 DEPRESSION TO MEXICAN WAR

Following the election of President James Polk in 1844 the United States began a drift toward war with Mexico. The annexation of Texas into the union was a reflection of that drift. In 1846, war commenced with Mexico and lasted two more years. With no central bank through which to raise funding to pay for it—and US banks and investors still reluctant to part with their excess reserves given the weak recovery—Polk's Treasury raised funding for the war by borrowing from London investors, part of which was used to cover the US budget deficit that had occurred due to a 10 percent loss of US revenues from tariffs. The revenue loss and war spending caused a budget deficit of $30 million in 1847, the largest in sixty years. The budget was in deficit again the following year, 1848–1849, and the Treasury was forced to cover it by issuing more short-term Treasury notes to US investors. The amount raised proved insufficient, and the Treasury issued additional long-term bonds as well. Exercising this traditional central banking function of loan aggregation, "between 1846 and 1849, the federal government issued forty nine million dollars in long-term debt to finance the war."[1]

The era of slow growth during the decade was finally ended with the discovery of gold in California in 1848–1850. Specie money flooded the US economy once again. It freed up additional specie inflows from Britain. A renewed boom in the 1850s followed in railroad construction along the eastern seaboard and the Ohio valley out to Chicago, along with the growth of coal, iron, textiles, wheat and grain production in the north, as well as cotton production for export in the south which increased by nearly two-thirds during the 1850s decade.

1850S BOOM AND BANKING PANIC OF 1857

California and British gold, Wall Street investors, and private state banks released the liquidity genie once again. Speculation in railroad and agricultural land expansion renewed. In 1845 there were 4,000 miles of railroad; by 1860 the United States had half the world's railroad mileage, more than 30,000. From 1.5 million bales of cotton produced in 1845, cotton production rose to 4.5 million by 1857.[2] Wheat, corn, coal, iron, and lumber all expanded severalfold as well over the decade. US land sales policy enabled the agricultural and transport land speculation. In an 1854 act, the Congress reduced the cost of an acre of land from the $1.25 in effect since 1841, purchased in cash only, to a price as little as 12.5 cents per acre. Still payable in cash favored large speculator buyers of large tracts of land. The 1850s was one of the greatest land booms in US history, with some investors in the midwest reaping returns of more than 100 percent from speculative land

buying in anticipation of railroad and farm expansion from Ohio to Iowa and for cotton production throughout the deep South.[3]

Excessively easy credit provided by pure market forces (not a central bank) resulted in speculative bubbles and overproduction, which peaked mid-decade. A banking panic consequently emerged in 1857 once again, as overbuilding of railroads and railroad bond issuance became overextended, fueled in part by banks exhausting all their reserves to extend loans.

The precipitating event was the failure of the Ohio Life Insurance and Trust Company, the largest bank in the state. It overextended its lending and had insufficient liquidity on hand to pay its bills. It announced in August 1857 that it was suspending specie conversion. With ties to New York banks, the fear spread east that banks might not be able to redeem specie on demand by their depositors.[4]

A general concern at the time was the large outflow of gold from the United States to Britain, as US imports chronically exceeded exports. Upon news of Ohio Life's suspension, the New York stock market contracted sharply. Railroad stocks especially collapsed. Banks reduced their lending and hoarded their gold, thus reducing the money supply in the economy. Depositors withdrew their funds from the banks in turn, further constricting money supply. Banks that could not redeem their notes for specie began to fail. The New York banks were dependent on California gold shipments but, in bad timing, the gold shipment sank off South America.

The US Treasury was then forced to intervene, performing the central bank function of lender of last resort despite lacking formal authority; it began buying back its government debt in order to inject liquidity into the banks. However, that did not stop the panic. Banks throughout Philadelphia suspended gold redemption, setting off a bank run throughout much of the country. Industrial production, transport, and construction declined. Farm prices in particular began to fall.

As typical in cases of financial panics, if not stopped quickly they inevitably lead to money hoarding by banks, runs on banks by depositors, and a collapse of effective money supply and therefore available credit to nonbank businesses. A subsequent, delayed phase then sets in, as non-bank businesses contract investing then production, lower their prices for goods and services, and lay off workers. The collapse of consumption then follows declining investment and production, thereby creating an environment where banks hoard liquidity even more. The cycle continues, in a downward spiral, until some real or psychological external event convinces investors that liquidity is returning once again. This basic process is what set in during August through October 1857. In terms of central banking, what was clear was that the Treasury's "injection of liquidity" was too little and too late to change the general psychology and stop the panic.

The panic abated by December 1857 as New York bankers pooled their resources, with the assistance of London, and announced resumption of specie payments. However, by then the real economy had begun to contract. Unemployment rose significantly and real wages dropped by 10–20 percent.[5] Farm prices remained low throughout 1858. Economic instability in Europe and Britain further reduced demand for US farm goods. While specie redemption returned, bank lending did not—as typically occurs after a panic and financial crisis. The real economy reached its nadir in 1859. Business defaults and failures, according to R.G. Dun and Co., a major business conditions reporting service, rose considerably, from 4,225 business failures in 1858 to 6,993 in 1861, which in terms of total asset values reflected a rise in losses ranging from $95 to $207 million between those years.[6] It would take two more years for industrial production, jobs, wages, and the "real" economy to recover.

The impetus to recovery would be fiscal, not monetary; namely, the coming of the Civil War. As noted by one economic historian, "The great demands incident to the war and the general employment of labor caused by these demands . . . prevented the possibility of depression. The issuance of paper money (once the war began) . . . made the payment of debts easier, and tended to prevent bankruptcies."[7] A significant liquidity injection would accompany the fiscal war stimulus, including the federal government flooding the economy with a new paper currency issue called the "greenback." But that monetary stimulus would be managed by the US Treasury responsible for the money supply. Once again the Treasury would function as the de facto central bank.

Two other developments relevant to central banking evolved further during the 1850s in response to the 1857–1859 panic and deep recession. One involved the bank supervision function and the other what is called a clearinghouse function typically performed by central banks. Associated with the first, a new Office of the Comptroller of the Currency was established at the federal level but outside the Treasury. In the second development, the major banks in a few of the bigger cities, led by New York, created rules and procedures for settling inter-bank transactions—that is, a clearing house—albeit only on a citywide basis and not yet regional or national.

The Comptroller's task was to address the growing problems associated with the proliferating private bank paper currencies at the time. In addition, the banks in New York, and later elsewhere, set up a system of settling payments between banks. During the banking panic of 1857 the banks in New York moved toward clearinghouse function by issuing "clearing house certificates" (a kind of paper money they would collectively accept) on an emergency basis. If a particular bank got in trouble it was issued the certificates that were honored by the other banks. The certificates could only be used inter-banks and within the city. The practice represented, in effect, a

kind ad hoc emergency lender of last resort function, as well as a rudimentary clearinghouse function.

But despite these limited developments toward central banking, the most basic central banking function—that is, providing a market for government borrowing and loans—was barely functioning at the federal level. By 1860, on the eve of the Civil War, the federal government was essentially broke. At the outbreak of that war, the US Treasury had barely $2 million reserves on hand, with spending commitments ten times that amount. The federal government was required by law to pay its bills in specie, but at the outset of the war many private banks were still suspending specie payments.

These pre–Civil War developments indicated that market and economic conditions were driving the economy further toward evolution of central banking functions. A centralized institution dedicated to aggregating the various functions did not yet exist. Even the private banks were coming to realize that free banking created serious problems and was highly prone to instability. Matters of currency stability, unregulated and volatile money supply changes, states' inadequate oversight and supervision of their banks, and the federal government unable to ensure a stable source of funding were all serious problems associated with free banking.

NATIONAL BANKING ACTS AS CENTRAL BANKING

The government response during the crisis of the war period was not to create a new central bank, nor even a return to something like the two Banks of the United States. What was proposed instead was a hybrid system. The old state "free" banks system would remain, but alongside it would be a parallel National Banking System. It would establish a national currency, competing alongside the thousands of state bank currencies. But a monopoly over currency issue (i.e., a key characteristic of central banking) was not established.

In a series of acts passed from 1862 to 1865, a National Bank was established in Washington, DC, with branches of that bank in key cities throughout the country. State banks could also drop their state affiliations and join the National Bank, but were not required to do so. The idea was to lure a significant number of the 1,642 state banks at the start of the war into becoming some of the branches of the national bank, in effect converting them to the new national bank system. The advantage in joining was becoming the preferred customers for federal transactions. National Bank members would also have a privileged position in providing loans to the government, and the federal government would deposit its new notes and "bills of credit" with them. The depositing of federal money meant the state banks' money supply would grow and they could now lend more. Participating as a member branch

of the National Bank also meant, however, they would have to maintain a minimum amount of "reserves" in their vaults. National banking thus established at least a partial control over reserve requirements and therefore money supply. The new branch national banks were also prohibited from investing in real estate, that is, competing with state banks in this lucrative market.

With these measures the idea was that the Treasury would at least restore some of the basic functions of central banking to the system. The priority was, at minimum, re-establishing a market for government loans, and bringing some form of stability to the currency situation that was now out of control.

At the time there were no less than nine thousand different state bank and hundreds, perhaps thousands, of types of bank notes in circulation. Thousands of non-chartered private banks also created money in the form of promissory notes, certificates of various kinds, and other non-currency forms of money. There were an estimated 5,400 different forms of counterfeit currency at large as well. How to regulate the money supply given such a Byzantine network of paper currency? Stability required a monopoly of a single currency. The idea was for the national currency to steadily crowd out the state bank currencies as the latter banks joined the National Bank System.

As for establishing a stable source of government borrowing to help finance the war effort, the federal need was dire at the time. In the first three months of the war, federal receipts were only $5.8 million while expenditures were $23.5 million. The government estimated a two-year budget of $319 million was needed for the war. About $240 million of that would have to be raised through loans, the rest from new taxes.[8] It was a new system based in free banking, but minus some of the worst elements of free banking.[9]

State banks' opposition to the new National Banking Act, passed in February 1863, was intense, especially in the west. The banks in the South, now the Confederate states at war with the nation, were no longer a source of opposition. Those in the west were split by the needs of the war, while, in the northeast, where state bank opposition to a central bank had always been weakest, war needs were seen as paramount. The war thus opened the possibility of restoring some form of basic central banking functionality, while simultaneously coexisting with the state banks. But there would be no central bank as a single institution; the functions would be shared between the US Treasury and the Office of Comptroller of the Currency.

Some state banks in the north tried to game the new system by becoming National Bank branches but retaining their state bank charters and their own currencies. Meanwhile the money supply, now composed of specie plus state bank currencies as well as the new national currency, continued to rise. To help finance the war effort, the North created a new currency called the "greenbacks." Three issues of $150 million each were created in 1862–1864.

That was $450 million, which just about doubled the stock of money in the United States at the time.[10] So much for the National Banking System and stabilizing the money supply.

Only about 400 or the 1,466 state banks in 1861 converted to branches of the National Bank by 1864. To accelerate the conversion, and to get the state banks to stop issuing their own currency, a second National Banking Act in 1864 was passed. It provided for a significant tax of 10 percent on those banks that continued to issue their own currency. This was also a disincentive to get the state banks to convert to a branch of the National Bank, which required them to trade in their currencies for the national currency now issued by the National Bank. The idea of the National Banking Acts was clearly to crowd out the state banks and force them into a National Banking System with one currency, the supply of which was now controlled by the national bank located in Washington, DC, instead of Philadelphia as were the prior two Banks of the United States. As part of that national system, the branch banks' reserves requirements would be set by the National Bank as well. The larger regional banks were required to keep their reserves in gold, but the smaller, more distributed, branches were permitted to count the regional banks' reserves as their own. The new reserves requirement of branches of the National Bank ranged from 12.5 percent to 25 percent of loans and liabilities, depending on whether the branch bank was a regional center in a larger city or a smaller bank.

The National Banking Acts of 1863 and 1864 resulted in a partial recentralizing of central banking functions in the Treasury. Some partial control over currency and reserves was created, a more stable source of government funding was established, and a limited degree of supervision (over national branches only) was introduced. While strong incentives and disincentives were introduced to get state banks to join the National Banking System, nevertheless a parallel system of free banking continued to exist, especially in the west. Branches of the National Bank did rise, from sixty-three in late 1863 to 1,513 by late 1865, while state-chartered banks did decline from 1,466 to 349. But non-chartered private banks continued to proliferate by the thousands. While they could not issue currency in traditional money form, they could and did issue money as promissory notes and other forms of credit. Following the war, the number of state banks would surge again. The strategy of National Banking "crowding out" state banks would fail. What it left was a partial, aborted central banking set of functions.

What today are referred to as "shadow banks"—for example, life insurance companies, mortgage brokers and banks, investment banks, Trusts—also expanded during wartime, providing addtional sources of credit. Moreover, what the state banks had lost in terms of their control over the unlimited generation of currency with the advent of the 10 percent tax on their currency during the Civil War–era banking reforms, it developed a "work around" the

tax after 1865 by creating a checking system. Checks were not currency, so they were not taxable. With this innovation, the State banks after the war began a period of resurgence and expansion. That expansion, combined with the expanding National Banks and their national currency, plus the non-bank financial shadow banking system expansion together suggested the post-1865 economy would be one of continuing money and, more important, economy credit expansion. And unrestrained credit expansion meant accelerating debt, and excessive debt creation meant in turn eventual financial booms and busts, followed by depressions in the real economy.

The National Banking System reforms of the 1860s decade therefore did not resolve anything despite creating a new currency, setting some reserve requirements for banks, and introducing a modicum of bank supervision. They did not stabilize the banking system or reduce the high degree of financial instability inherent within that system. Proof of that would soon re-emerge with major banking and financial system crashes in 1873 and 1893 that precipitated major economic depressions during the remainder of those two decades, similar to that which occurred in the 1837–1843 bust and depression. Like the earlier event, the two great post–Civil War depressions in the 1870s and 1890s had their roots in land and bond speculation: In 1837 it was land speculation associated with cotton expansion, northern farming settlement, and canal bonds; in 1873 it would be once again land speculation and railroad bonds; and in 1893, land, railroads, and now stock-market speculation.

NOTES

1. Roberts, p. 197. The total cost of the war to the United States, including bond debt, London loans, payment of $15 million to Mexico for land taken by the United States and an estimated $60 million in long-term veterans benefits "might well have been as much as two hundred million dollars" (see Roberts, p. 196).
2. Robert Fogel and Stanley Engerman, *Time on the Cross: The Economics of American Negro Slavery*, W. W. Norton, New York, 1974, p. 90.
3. See Atack and Passell, Figure 9.7, p. 269.
4. James Huston, *The Panic of 1857 and the Coming of the Civil War*, Louisiana State University Press, Baton Rouge, LA, 1987, pp. 14–18.
5. Huston, p. 27.
6. Theodore Burton, *Financial Crises and Periods of Industrial and Commercial Depression*, D. Appleton & Co., New York, 1902, reprint by Cosimo Inc., New York, 2005, p. 344.
7. Burton, *Financial Crises*, p. 286.
8. Atack and Passell, p. 494.
9. Hammond, p. 727.
10. Atack and Passell, p. 496.

Chapter Seven

The Legacies of National Banking, 1872–1898

The central banking issues that plagued the US economy throughout the remainder of the nineteenth century were currency instability, money supply regulation, poor bank supervision, and the lack of lender of last resort function. Financial crises erupted repeatedly in 1873, 1884, 1890, and 1893 under the regime of National Banking. On two such occasions, in 1873 and 1893, the panics and financial crises led to general economic depression.

Throughout the post–Civil War period, bank supervision continued under the authority of the states, some of which essentially ignored the function. Meanwhile, proliferating new financial institution forms of shadow banks made the supervision function even more difficult. Lender of last resort was left to the banks themselves in times of panic and crisis, as they tried—sometimes successfully, sometimes not—to pool enough resources to essentially bail out banks in trouble and stop the runs on the banks. The Office of the Comptroller continued to struggle to get a handle on proliferating paper currencies. Volatility of specie flows from Britain continued to produce wide fluctuations in the US money supply. Efforts to influence bank reserve requirements were only partially successful for those banks associated with the National Banking System and virtually not at all with the many banks still outside the system.

The same real conditions that generated booms, busts, and panics pre–Civil War continued—only now on an even grander scale in an economy growing increasingly complex: speculative overinvesting in land associated with successive new waves of railroad expansion and related settlement construction; expansion of agricultural goods production both northwest and south; new farming equipment technologies that led to farm mortgage refinancing and indebtedness; bank financing of industrial manufacturing that

boomed after 1880; and now an explosion of investing opportunities in joint stock companies and stock markets.

It was the same problems and issues associated with the 1857–1860 panic and crisis only now writ large—that is, on a much larger scale in an economy far more financially complex.

THE BANKING CRASH OF 1873

By 1873 the number of National Bank branches had increased from 1,513 at the war's end to 1,968, mostly in the west and south.[1] Meanwhile, state banks, private banks, and new forms of shadow banks also rose in number. The volume of loans and money supply for the National Banks alone rose by almost 50 percent, again mostly in the west and south, from 1869 to 1873. By 1873 there was $700 million in paper currency money supply in the United States, more than half of which was still national greenbacks currency that had seriously depreciated.

Competition between the growing numbers of both national and state banks also caused a dilution in bank reserves as the money supply, official and unofficial, continued to surge. States allowed state banks to reduce their reserves to virtually zero. Reserves were required only for national bank branches. But there were problems here as well. National Bank branches in the west and south were allowed to deposit reserves in eastern big cities regional branches, concentrated in the New York City branches, and in the seven largest in New York in particular. This concentration would later prove a source of instability. Estimates are that more than 60 percent of all the reserves were concentrated in New York banks, the big seven especially.

Since branches of the National Banks were prohibited from engaging in real estate loans, most of the land speculation, largely in the west and south, where railroad expansion was under way after 1865, was financed by the state banks that did not join the National Banking System. And their numbers were growing once again post–war, as were other forms of financial institutions and ways of providing credit. State banks' speculation in real estate was also made possible by their borrowing from National Banks. So the National Banks were linked to any future speculative bust by a contagion mechanism through loans made to the state banks. A third tier of private, so-called country banks and shadow banks also borrowed from the National Banks, with similar potential contagion consequences for the National Banking System.

The primary way in which land speculation for railroad building was financed, however, was not via direct loans from state banks but through railroad bonds. The Civil War had created a robust market for government bonds. The same brokers and sellers of government bonds during the war

simply shifted to creating and selling railroad corporate bonds. The wartime "government bond king" was Jay Cooke. Once the war ended, Cooke and others quickly became leaders in the newest emerging private bond markets and in the new speculative bond opportunity—the railroads. A second great wave of railroad building (that began in the 1850s but was initially interrupted by the war) was unleashed in the late 1860s. Railroad bond speculation dovetailed nicely into two other areas of classical speculative investing—land and urban residential and commercial properties. Thus, three major forms of speculative land investing converged in the late 1860s and early 1870s.

Profits in railroad building were not from charging fees for shipping of produce or passenger travel. It was from land speculation. The construction of railroads preceded the development of farming and agriculture in the deep Midwest. Railroad construction was an end in itself, to feed the speculative gains to be realized from the bond sales—not the fees charged to transport produce. Railroads were often given land for free by governments. They then resold the "rights of way" land paralleling the rail lines to investors in the east and abroad as well. Railway junctures were especially profitable, since towns and cities arose on them and the land appreciated even more. Railroad bond speculation even developed a kind of early form of multitiered speculation. Capital raised from initial bond sales was in turn "paid" to the railroads' own construction companies. The construction companies made the money, not the railroads. This required the railroads to continually issue more and more bonds in order to keep the railroad construction going. Debt piled upon debt. And so the consequent cost of financing that debt also grew over time.

Railroads were intentionally built to nowhere. The more lines laid, the more potential for land speculation and bond selling to investors, sight unseen. Banks, investors, and local speculators just kept issuing new bonds, the latter to pay the interest due on the old. The bonds weren't created therefore to build the railroads; the railroads were being built to keep the bond sales "golden goose" alive and thriving.

It was not unlike what later would be called "Ponzi" investing; or, in the twenty-first-century US economy, the overbuilding of housing and commercial properties in order to enable expanding "securitization" of mortgages and other derivatives for sale to investors. That financial side was where the real money was to be made and not so much from the sale of physical goods.

The speculative investing frenzy was not limited to land and railroads. The 1870s marked not only the accelerated growth of corporate bond markets for railroads and related manufacturing and mining feeding off the railroad boom; the stock markets also came of age in the postwar period. Borrowing from banks for purposes of stock speculation also became popular on a wider scale. The New York banks and investors overinvested in stocks in particular in the period immediately preceding the banking panic of 1873. Borrowing

on stock and other asset collateral to buy more stocks—that is, "call loans"—was also becoming popular.[2] One-third to one-half of total New York banks' lending occurred in the form of call loans to stock speculators.[3]

The exploding forms of banks and financial institutions, combined with the corresponding increase in money (and other forms of credit), enabled the railroad bond-land speculation bubble to continue to grow from 1868 to 1873. Bond-financed investment in railroads expanded dramatically, doubling the size of total mileage in the United States and creating a then immense value of $1.5 billion by 1873.

The financial crash finally came in 1873. The precipitating event was when the biggest railroad bond speculator, Jay Cooke, could no longer sell new bonds for his Northern Pacific Railroad. Cooke also owned banks. His New York, Philadelphia, and Washington, DC, banks purchased more than $100 million of the Northern Pacific Railroad bonds, and then "borrowed" from their depositors' accounts to cover losses. When the Northern Pacific went bust, so did Cooke's banking empire in all three cities. This led to a classic run on other New York banks. Within a few days more than forty New York banks and brokerages collapsed, followed quickly by the New York stock market, which was built upon the shaky edifice of call loans. Stock prices plummeted along with bond asset prices. The stock market closed for ten days—the first time since its formation in 1819. Remaining banks suspended payments to depositors attempting to withdraw cash. Multiple bank runs followed, spreading out of New York along the eastern seaboard, throughout the southern states, then the Ohio valley out to Chicago. A fracturing of financial fragility had clearly occurred. A full-fledged banking panic was under way by October 1873.

Defaults followed in large number. In September 1873 alone more than one hundred banks closed, sixteen national banks and eleven state banks. The remaining closures were other non-chartered private banks and shadow banks, like Trusts and insurance companies.[4] It is estimated that as many as fifty New York brokerages also collapsed.[5] However, these numbers still do not count an unknown number of hundreds, perhaps thousands, of local community banks. It also fails to count the unknown number of banks and other financial institutions that did not close, but temporarily shut down—that is were suspended—and later returned to operation merged with others in some form. There were countless runs on banks by depositors. Twenty-five railroads defaulted on debt payments between January and September 1873 just preceding the financial crash; railroad bankruptcies occurred thereafter by the dozens.[6] It has been estimated that 18 percent of all railroad mileage defaulted and went into receivership, as well as 18 percent of all railroad bonds.[7] General business failures in the wake of 1873 were also impressive. By 1878 at the depression's end, 10,478 businesses worth $234 million had failed.[8]

The focus of the banking panic of 1873 was New York City banks, which had by then become the center of the US banking system having eclipsed Philadelphia. The subsequent crashes in 1893 and 1907 would also center in New York. In 1873, the banking panic there was eventually transmitted to the rest of the banking system as a consequence of the previous concentration of reserves in New York by the banks elsewhere. Once the New York banks were in serious enough trouble, they suspended returning the reserves they were holding for the other regional banks. Desperate in need of their reserves to prevent default, the regional banks began to collapse. So the crisis contagion was from east New York to the rest. And from the National banking System to the rest.

Two developments of interest with regard to central banking functions came out of the crisis in New York, however. The New York banks undertook two important innovations and measures to check the deepening of the banking crisis. These measures might be considered central banking related. They were the New York clearinghouse banks issuing of certificates for their members, a form of money internal to their system only to cover and prevent bank defaults. Second, their sharing of reserves between them so the weaker banks did not have to default. These were central banking functions of emergency money supply creation and lender of last resort action. The pooling of reserves also reflected a traditional central banking tool development.

FINANCIAL PANICS OF 1884 AND 1890

Despite the "jury-rigged" structure of central banking under the National Banking reforms, not all cases of banking and financial stress from uncontrolled money and credit creation and lack of bank supervision necessarily led to full-blown banking panics, crashes, and consequent depressions. Unlike 1873—and 1893–1898 to follow—financial instability in 1884 and 1890 did not result in a banking crash and major contraction of the real economy.

It is necessary to differentiate between a full-blown financial *crisis* versus a banking *panic* that is localized geographically or to limited sectors of the financial system. There is also a difference between a localized banking panic and an even less severe banking *stringency*. The financial instabilities that erupted in 1884 and 1890 were either a localized banking panic (1884) or what was called at the time a banking stringency (1890).

A true banking crisis includes bank runs (represented by either retail consumers withdrawing deposits or wholesale runs as institutions withdraw funds), bank suspensions, and bank failures or closures. It occurs not simply in a single city (e.g., New York) or even several cities (Philadelphia, Washington, DC, etc.) but in the "interior" of the economy as well. Banks, credit markets, and stock and money markets are all impacted. Credit availability

and bank lending significantly contract as a result, with consequent serious consequences for nonfinancial companies and for the real economy.

In 1884 the banking panic was limited to relatively few banks and brokerages in New York and a few other cities. The stock market did not fall more than 10 percent. Depositor runs were limited to the few institutions specific to the event and did not spread to other banks or financial institutions. Relatively few bank suspensions occurred. It may have been a banking panic but not a more generalized financial crisis. And 1890 was again localized to New York with a couple banks in Philadelphia and Richmond, Virginia. Most of the failures and closures appear to have been state banks, private banks, savings institutions, and brokerages—that is, shadow banks rather than mainline commercial banks. Like 1884, in 1890 the stock market fell by less than 10 percent. In both cases, 1884 and 1890, the impact on the real economy was apparently minimal by most accounts.

For a full banking crash to occur, an extended period of speculative investing, leveraging credit, and debt well beyond normal levels must occur. There was likely inadequate time between 1879, the end of the prior depression, and 1884 for banks to accumulate the necessary excessive debt and financial fragility to result in a classic banking panic and crash in 1884. The same point applies to the run-up to the banking stringency of 1890. The private banking system's response to problems in 1884 and 1890 may also have played an important role in preventing a full-fledged financial crisis during those years. The major New York banks quickly provided emergency funding to each other, thereby checking the bank runs and further instability. Had the initial financial eruptions in 1884 and 1890 been more serious, it is unlikely that banks would have collectively pooled their resources to aid one another. A more severe crisis, caused by a longer and deeper debt run-up to the implosion—that is, characterized by great financial fragility—might have overwhelmed the self-help efforts between the banks. As the US economy became increasingly large and complex, the possibility of the private banks bailing each other out by clearinghouse cooperation and pooled reserves became increasingly unlikely, if not impossible. That would be the inevitable experience in the 1907 crash.

The lesson of the experiences of 1884 and 1890 is that voluntary measures by banks themselves to contain an initial eruption of financial instability—that is, the provide themselves with liquidity in the emergency and mutual lending of last resort—only work when the magnitude of the crisis is not particularly severe. Voluntary responses in which the banks themselves assume central banking functions of lender of last resort and liquidity provision do not work in cases where severe financial fragility has accumulated during the boom phase preceding the banking panic—such as during the three great banking crashes during the National Banking period: 1873, 1893, and 1907.

One final comment: the relatively minor impact of the banking panics of 1884 and 1890 on the real economy was due only in part to the moderate nature of the financial instability during the decade. The nonfinancial economy was also less impacted during these subdued financial panics due to other countervailing forces pushing economic growth at the time. The real economy was being driven increasingly throughout the 1880s by the rapid growth of the manufacturing sector in the United States, as well as by a higher than normal demand for US agriculture exports from Europe. Also, early manufacturing growth in the 1880s was possibly less dependent upon debt financing than it would be in later decades. In other words, the speculative debt-driven excesses were muted by significant real asset investment in manufacturing and agriculture that was also taking place more or less independently at the same time. Therefore not only may have speculative investing not have had time to develop financial fragility to sufficient levels to produce broader and deeper financial crises in 1884 and 1890, but the expansion of manufacturing and agricultural production was sufficiently robust to shield the real economy somewhat from the credit contraction that followed the financial events of 1884 and 1890, contractions which themselves were not that serious given the relatively moderate financial instability of 1884 and 1890 in the first place.

The general conclusion for central banking functions analysis is that the measures by the private banking system to stabilize a financial crisis may prove sufficient only in cases of moderate debt escalation and leveraging, and in an economy with strong, real economic investment and growth. However, that would not prove to be the case in crises in the twentieth and twenty-first centuries.

THE BANKING CRASH OF 1893

The depression of 1893–1898—like 1873–1879 and unlike 1884 and 1890—was precipitated by a banking panic and a full financial crisis.[9] The banking panic that erupted in April 1893 was followed by a major decline in the New York stock market on May 3, 1893. However, both the banking panic and stock market decline were precipitated by the collapse of the Philadelphia and Reading Railroads, followed by the failure of the major industrial company, National Cordage, which was the focus of a particularly intensive speculative investing activity in the preceding months.

What the 1893 experience showed is that when stock and bond markets contract together more or less at the same time—that is, when the contagion effects between them are strong—then banking panics often follow that contagion and correlated stock-bond contraction. Philadelphia and Reading Railroad bonds set off the bond market decline, while National Cordage the stock

market. But both companies had become fragile in the first place due to overspeculation in their securities that drove prices that could not be sustained. And speculation, in turn, is almost always caused by excess money and credit supply, and the creation of excess debt in a boom period that cannot be repaid once the bust and economic contraction begin—put another way: collapsing asset values result in insufficient income with which to pay interest and principal on the excess debt. Defaults follow, credit dries up, contagion then spreads to the real economy, which contracts in turn.

If a key central banking function is regulating the money supply, then the private banking system as locus of money supply creation and de facto regulation clearly failed to perform that function. In 1890, approximately $100 million had been added to the money supply, according to a National Commission in 1910 evaluating the 1893 crisis and its causes. Another $128 million was added in the next eighteen months, from January 1892 to June 1893.[10] Bank lending by the National Banks alone increased by $202 million from May 1891 through September 1892, and this did not include additional loans by state banks, country banks, and shadow banks like insurance companies, investment banks, Trusts, etc.[11] Shadow banks in particular had become an important new institutional player driving the excess and speculative lending practices that led to financial boom and bust. From only a few dozen in 1886, their numbers had grown to two hundred by 1893, among which the Trusts were the largest and most influential.[12]

In other words, the money supply surged—as a combined result of Treasury purchases of silver,[13] other excess Treasury payments, and bank note issues and loans—by at least $300 million from all sources during the bubble years of 1891–1892. In turn, bank loans from all sources (national, state, country, shadow) accelerated to $465 million at end of 1892.[14] Meanwhile, banks added only $8 million to reserves needed in the event of a crisis. As the report by the National Monetary Commission concluded, "On account of abundant cash reserves, the banks may have extended credit more freely during 1891 and 1892 than they would otherwise have consented to do."[15] To describe it as "may have," however, is certainly an understatement.

This explosion of money supply—that is, "liquidity" as it is today called—fueled speculative overinvestment in railroads with railroad bonds once again, as the final phase of "feeder" railway lines were built throughout the main railroad network created in the late 1860s to the early 1870s. Overlaid on this was an explosion in farm mortgages and urban construction in the towns along the feeder lines.

Added to all the land, railroad bonds, and stock market and gold speculation was a surge in general corporate bonds that were issued to finance the new industries that arose in the 1880s. It was during this period that most cities began developing gas, electric, water, electric railway systems, and other utility infrastructures. Many community and regional state and private

banks funded these projects. But they were often overbuilt. Multiple utilities arose in cities and towns. It was not untypical to have several electric companies, gas companies, water companies in the same city. The intense competition that produced meant few could raise sufficient revenue to make the payments on their bonds after initial years. Many subsequently failed by the 1890s, and that failure led to bringing down the local banks that had loaned to them.

In addition to all the above, now a new speculative element was added in the form of a major wave of industrial mergers in the manufacturing base as the economy rapidly industrialized in the late 1880s. The manufacturing and industrial expansion of the 1880s in particular fed the stock-market speculation, as newly emergent investment banks and other shadow banks financed mergers and acquisitions in manufacturing and mining with massive new stock issues. As reported by the Commission, "activity on the stock exchange was largely in connection with speculation in industrial companies and the financing of various combinations."[16]

Industry-based stock speculation took various new forms as well. There was the idea of the "holding company." Here stock was issued on both the primary company and the holding company owning it as well, a kind of double stock issue based on the same foundation of real physical asset. As a further exacerbation of the excess stock-market speculation at the time, the practice of "watered stock" became popular. Previously, stock issued by a company did not exceed the market value of its assets. Watered stock meant more stock was issued than the company's value. This was typically accomplished by issuing common stock equal to the value of assets, but then further issuing preferred stock also equal to the same real asset values. Thus, at least twice the value of assets was issued in stock. In 1887 it was estimated that 40 percent of industrial companies were issuing watered stock in this manner; by 1892 it was 90 percent.[17] And then there were the call loans which in effect increased the available money supply for purchases of stock by brokers allowing speculators to borrow credit based on the value of the stock already bought, if it rose in price. This was "moneyless" stock buying. Call loans availability stimulated demand for stocks and therefore their price even further.[18] It is estimated that call loans constituted one-third to one-half of the entire portfolio of loans issued by New York banks in the immediate pre-1893 period.

As a consequence of all these sources of speculative investing in real assets and the financial securities created with them, the total value of industrial corporations alone—that is, excluding railroads and utilities—rose from $216 million in 1887 to $1.2 billion in 1893, a sixfold increase.[19]

Speculation in land and construction, railroad bonds, industrial stocks, utilities, and so forth, was further exacerbated by speculation in commodities

as well, as the price for silver certificates and coin, and gold, fluctuated wildly on the eve of the 1893 crisis, as did European demand for US wheat.

Thus the general picture leading up to the financial crisis of 1893 was a high degree of speculative investing—in railroads, mortgages, local business and utility infrastructure, land speculation, grain commodities, gold and gold-denominated assets, silver coin and certificates, plus growing stock speculation driven by industrial mergers and holding companies. But it had all been enabled and made possible by the enormous increase in various forms of the money supply that fueled the excessive bank lending by all types of banks. That excess lending in turn drove the price bubbles in the various markets for railroad and utility bonds, industrial and manufacturing stocks, land for farm mortgages and urban development in the west and south, even silver and gold money prices.

But prices that escalate to bubble levels inevitably burst and fall, even faster than they rise. And when they do collapse, what was previously excess money for speculative lending also becomes a collapse of money values, a general and widespread unavailability of loans, and a collapse in the prices for land and financial securities it once fueled. Bank loans that had reached a peak of $465 million in 1892 now began in 1893 to contract sharply—by $40 million in the early months of 1893 even before the banking panic erupted in May 1893.

When the banking panic of 1893 and crash finally came, it occurred first in the New York City National Banks and that city's shadow banks (i.e., brokerages, private banks, Trust companies, investment banks, commercial paper dealers, etc.). But after May the banking crisis generalized and spread to the interior of the country, in particular to the Midwest, cities of the southern Great Lakes region, and eventually to the Pacific Coast as well. Between May and August 1893 alone, a total of 503 banks suspended operations, the majority of them in the Midwest-Pacific.[20] Most of the suspensions were state banks which retained little or no reserves, but also shadow banks—investment banks, brokerages, private banks—that also typically kept even fewer, if any, reserves.[21] National Bank branches were also affected, however, as they attempted to call back what reserves they had on hand at the center city banks, especially New York City, to try to cover their own losses.

That withdrawal was in response to a second round of bank runs in July–August 1893, mostly in the West, Midwest and South. At first the New York banks responded earlier to requests to transfer back to branch banks in the interior the reserves the branches had deposited with New York and the city center banks. But then the New York banks halted the transfers. As one commentator aptly described it, "New York bankers were less willing in 1893 than they had been in 1873 to relinquish individual bank discretion over cash reserves for the purpose of shoring up weaker interior banks. Rather

than accept an increase in the risk of losing reserves, they were prepared to tolerate a banking panic in the interior."[22] The interior is where the second panic occurred in the late summer of 1893. The New York banks also simultaneously halted cash payments in New York, which intensified the problems there as well.

The New York banks thus transmitted their crisis to the west and interior by suspending their own policy of sharing reserves with the interior banks. Unlike 1873, the New York clearinghouse banks decided not only to not share reserves, as required by the National Banking Act, but also decided not to pool reserves even among themselves in New York. The 1873 practice of issuing certificates—an emergency form of money—was now also proving insufficient to stem the crisis in New York, let alone across the broader banking system.

With New York commercial and shadow banks, state banks, National Bank branches, and totally unregulated country banks now all in trouble, the crisis had simply gotten too large for clearinghouse banks in New York alone to contain. The banking system had grown too large and too complex for a handful of the largest banks in the New York center to prevent contagion spreading from New York to the interior. So they didn't even try, and retreated to protect their own New York interests, even if at the expense of the interior banks. Even in New York, cooperation and reserves sharing among banks, as occurred during 1873, had broken down. New York banks thus couldn't function as lender of last resort even for themselves, let alone the rest of the banking system.

The year 1893 was clearly a more serious generalized banking and financial crisis compared to 1873. Once the crisis had reached a certain level, the dynamic shifted to the interior. Under the National Banking System the reserves structure had become imbalanced and poorly regulated. Reserves concentrated in New York, where banks sucked up the reserves from the branches and then refused to return them, thereby exacerbating the banking crisis and causing a second panic in the interior of the banking system. The result was a more serious crisis. Inter-bank lending dried up, a common characteristic of a true financial crisis.

From the standpoint of central banking functions, what the crisis of 1893 shows is that a modern private banking system cannot effectively supervise itself to prevent recurrent banking crises. Furthermore, the banking structure of the United States at the time—composed of national banks, shadow banks, state banks, country banks, and so forth—was becoming too chaotic to control the money supply or the consequent surge in credit that was continually feeding speculative lending excesses. Money now was not merely currencies, bank notes, or specie. New ways of providing credit and new financial institutions outside the National Banking framework were being born. Despite holding more than half of the total system reserves, the New York banks

slipped back into self-preservation of their own shareholders first and abandoned the larger system's stability and needs. They might act as the last resort lender perhaps for themselves, but not to the system as a whole. Clearinghouse functions existed in New York and other major cities, but not for the system in general. The Treasury remained a bystander, unable or unwilling to intervene to provide basic supervision, which was left to the Office of Comptroller. And the latter was concerned primarily with currency stability, not system stability, and, in any event, was unable to ensure even currency stability. Finally, the function of funding the government was inadequate. The United States would soon go to war with the Spanish in 1898 with a war budget based on emergency excise taxes, not borrowing or based on government bonds.

The private banking system had reached a point of development where clearly the private banks could not self-supervise, function as a lender of last resort in a crisis, or ensure reasonable price and currency stability, or even manage the reserve requirement in a stable manner. The prior speculative credit and debt run-up to the crisis was just too much for the system, as then structured, to handle. The result was a major banking panic and financial crash, with the credit system freezing up, and the transmission of the banking crisis into a bona fide economic depression.

Following the financial crisis in the spring of 1893, a decline in the real economy intensified around August to September 1893. About that time the interior banks began to run out of currency to loan clients to cover business payrolls. Prior to August, 3,401 defaults and failures of nonfinancial companies occurred from January through June 1893.[23] But for all of 1893, business failures totaled 15,242, with a corresponding increase in lost value of $346 million, an increase of 300 percent compared to the preceding year, 1892. The failures and losses declined in 1894–1895 to around 13,000 and $170 million, but rose sharply once again in 1896 to more than 15,000 and $226 million.[24] The 1890s depression was thus a "double-dip" event.

In terms of debt, deflation, and default, tens of thousands of nonbank failures followed annually between 1893 and 1897. More than 40 percent of all railroad mileage defaulted during the depression that followed the financial crisis of 1893. Unemployment, by one estimate, reached 18 to 19 percent in 1893–1894 and remained at 14 percent levels into 1898.[25] Bank-lending contraction was the most severe of any crisis to date, falling 14.7 percent in just five months from the date of the stock market collapse, May 3, through October 4, 1893. This compared to a lending contraction of 5 percent in 1873.[26] An index of industrial production fell –8.7 percent in 1893 and another –7.2 percent in 1894, rose slightly in 1895, and fell again in 1896.[27]

The pattern of 1873 and 1893 would be repeated once again, a third time, with the financial panic of 1907. This time a classic depression would be narrowly averted, however, as the New York banks now stepped up commit-

ting nearly all their resources to stop the panic, functioning as their own lenders of last resort. Their effort would still prove insufficient, and it would take the US Treasury to commit almost its entire liquid resources to bail out just the New York banks.

By 1907 it had now became clear that the US economy, financial and real, was just too large and complex for the private banks to function as their own lender of last resort. That size and complexity also meant the insufficient state bank supervision approach was even more unwieldy and ineffective. A national clearinghouse was also now needed, not just local city-wide or regional. The proliferation of currencies required a national monopoly over one currency if the money supply was ever to be regulated successfully. The 1907 experience would show, moreover, that even if and when the banking panics were quelled and the banking system stabilized, the real economy would languish in slow growth, stagnation, and weak abbreviated recoveries. Bank hoarding and inadequate lending followed the panics and crashes for years thereafter. The real economy would not necessarily stabilize and grow adequately in the wake of the crashes. Five-year depressions were the consequence after 1873 and 1893; a "great" or "epic" recession would be the consequence after 1907. JP Morgan, big bankers, the Treasury, and government politicians would now come to realize that the method and means of bank bailouts had by 1907 become too costly, too risky, and too politically unpopular. If banks were now unable to bail out the system, the Treasury might, but having the US Treasury do so with direct payments to the banks was immensely politically unpopular for elected politicians as well.

The banks could no longer bail themselves out without massive government assistance, and the government did not want to appear to rescue them when public opinion viewed the banks themselves as the source of the crisis. Politicians did not want the Treasury—part of the government itself—to appear to function as a central bank. But the banks themselves could no longer perform the key central banking functions themselves. There was no single currency, money supply was highly volatile, banks continued to overinvest reserves, Clearinghouses were fragmented, bank supervision was fragmented and virtually ineffective, and some form of new lender of last resort function was needed. However, it would take another financial panic and crisis in 1907—followed by a period of insufficient, short, shallow economic growth and double-dip recessions in the real economy—to convince both bankers and politicians alike that a central bank was needed in a twentieth-century economy the size and complexity of the United States. That central bank would have to be structured, however, to perform its functions within the context of the special US conditions, characterized by a large number of private banks, regional economic differences, and a political system in which financial players and banks wielded significant political and lobbying influence.

NOTES

1. National Monetary Commission, 1910, p. 4.
2. Other new financial instruments were also becoming more popular, like commercial paper, tontine insurance, and futures trading.
3. Benjamin Klebaner, *Commercial Banking in the United States: A History*, Dryden Press, Hinsdale, Ill., 1974, p. 79.
4. Elmus Wicker, *Banking Panics of the Gilded Age*, Cambridge University Press, New York, 2000, p. 18.
5. Edward Chancellor, *Devil Take the Hindmost: A History of Financial Speculation*, Plume-Penguin Putnam Inc., Harmondsworth, UK, 2000, p. 186.
6. Rendigs Fels, "American Business Cycles, 1865–1879," *American Economic Review*, 41, no. 3 (June 1951) p. 337.
7. Albert Fishlow, "Internal Transportation in the Nineteenth and Early Twentieth Centuries," in Stanley Engerman and Robert Gallman, eds., *The Cambridge Economic History of the United States, Vol. II*, Cambridge University Press, Cambridge, UK, 2000, p. 585.
8. Burton, *Financial Crises*, p. 344.
9. While it is generally true historically that all depressions are precipitated and/or accelerated by banking, or some other major market financial crash, it is not necessarily true that all banking crashes lead inevitably to depressions. Banking panics and crashes that are contained typically lead to what this writer has described as "epic" recessions, sometimes referred to as "great recessions." See Rasmus, *Epic Recession: Prelude to Global Depression*, chapters 1–3.
10. Excluding an outflow of $60 million in gold that began in early 1893 as the crisis was clearly emerging.
11. National Monetary Commission, 1910, pp. 157–59.
12. Eugene White, *The Regulation and Reform of the American Banking System, 1900–1929*, Princeton University Press, Princeton, NJ, 1983, pp. 12–13. Mutual Savings banks and Life Insurance companies—also shadow banks—also grew in number and assets relative to commercial banks in the concluding decades of the nineteenth century.
13. In 1890 the Sherman Silver Purchase Act was passed by Congress establishing silver as "specie" (i.e., money) alongside gold. Along with major inflows of specie from abroad, the silver act significantly expanded available liquidity, providing further basis for extending credit and fueling speculation in stocks, railroad bonds, land, and other assets. It also opened opportunities for speculating directly in silver prices, as well as in falling gold prices. Under the act, the US Treasury was obliged to purchase 4.5 million ounces of silver a month, paid with the new Treasury notes of 1890.
14. New York banks' loans totaled approximately $323 million by early 1893, per the National Monetary Commission, 1910, p. 162 for New York banks estimate, and p. 164 for the total.
15. National Monetary Commission, 1910, p. 159.
16. National Monetary Commission, 1910, p. 160.
17. Mitchell, p. 71.
18. When stock prices fell, however, it resulted in the loans being called in by the brokers and paid in full. That accelerated the collapse of stock prices.
19. Lawrence Mitchell, *The Speculation Economy*, Berrett-Koehler Publishers, San Francisco, 2007, p. 12.
20. Wicker, *Banking Panics of the Gilded Age*, p. 52.
21. Wicker, pp. 55–57, Tables 4.1–4.4.
22. Wicker, p. 53.
23. National Monetary Commission, 1910, p. 169.
24. Burton, p. 344.
25. Charles Hoffman, *The Depression of the Nineties*, Greenwood Press, Westport, 1970, p. 109.
26. National Monetary Commission, 1910, p. 208.
27. Joseph H. Davis, "An Annual Index of U.S. Industrial Production, 1790–1915," *Quarterly Journal of Economics*, 119, no. 4 (November 2004), Table III, p. 1189.

Chapter Eight

Panic of 1907 and Treasury's "Last Hurrah"

The third banking panic under the National Banking System occurred in 1907. The causes were similar to the previous panics, but in a number of ways more pronounced. The system's failures at central banking functions were increasingly obvious by 1907, the "last hurrah" of US Treasury to function as a lender of last resort and surrogate central bank.

In earlier nineteenth century crises, money supply and excess liquidity were driven by unregulated issuance of paper currency and bank note creation by state banks; by rising volume and volatility in cross-Atlantic gold flows from agricultural exports or Bank of England policy shifts; by US government wartime paper currency (greenbacks) creation and war-bond financing; and by gold and silver discoveries in the western United States, and the adding of silver specie as legal money for transactions. Both of the great depressions of 1873–1878 and 1893–1898 were preceded by an excess in liquidity, which fueled speculative investing booms in land, railroad bonds, city construction, and, later in the period, stock speculation associated with rapid industrialization and financial innovations like joint stock companies, holding companies, and call loans. In terms of central banking functions, money supply was virtually unregulated. Bank supervision was token and ineffective. And lender of last resort was left to big-city private banks to try to bail themselves out with pooled reserves when panics struck, which almost never succeeded.

By the first decade of the new twentieth century these problems and lack of some unified and coordinated central banking function did not abate. They intensified. Private banks continued to issue bank notes and paper currency at will. Specie money flowed to the United States from rising US agricultural exports to Europe and from interest rate imbalances between the United

States and Europe—the latter a trend that especially grew after the States joined the gold standard in 1879. The Currency Act of 1900 stimulated the creation of bank notes, most of which ended up deposited outside the National Banking System in the state banking system. Liquidity was further boosted after 1900 as result of Treasury practices: Instead of just redeeming government bonds from the private banks, the US Treasury began to directly deposit funds from government budget surpluses into the banks. It also introduced policies exempting some banks from even maintaining reserves and undertook actions that artificially stimulated gold prices. Thus, specie flows, Congress, the Treasury, state banks—that is, all were contributing once again to an accelerated growth of money and credit in the first decade of the twentieth century.

As a National Monetary Commission would conclude in its report in 1910, "Through gold imports, government deposits, additional issues of bank notes, and payments of cash by the banks, something like $300 million was added to the amount of money in everyday use or in hoards. Furthermore, a vast amount of substitutes for money was set afloat in the community."[1]

In addition to the various forces once again creating excess liquidity—that is, the fundamental source of cheap credit fueling speculative bubbles and panics—new developments in financial innovation were also expanding available credit. New ways of bank lending without the use of money in traditional forms such as currency, notes, or specie were emerging. Money can function as credit, although credit need not depend on money but rather on the value of other financial securities used as collateral for further investment—especially in financial assets like stocks, bonds, and currencies. Margin and call loans for equity investing, holding company and joint stock company issues, and new ways of collateralizing were accelerating financial asset investing along with real industrial production.

THE ROLE OF TRUSTS AND SHADOW BANKING

As money and credit were expanding, new financial institutions were growing and serving as intermediaries funneling the excess liquidity into the new industries, but also increasingly into the new financial asset markets that were exploding alongside industrial expansion. Unregulated state banks were growing in number and size. But even more unregulated and unsupervised than the state banks were the new financial intermediaries that typically committed all their reserves to high risk-high return investment (while borrowing still more, often from commerical banks, for the same purposes). These new financial institutions, known as "Trusts," would come to play a major role in the crash and panic of 1907. Trusts were the premier "shadow banks" of their day. The new financial institutions, the shadow banks, in-

cluded not only the Trusts, but investment banks, brokers, insurance companies, and other "bank-like" financial institutions.[2] Originating decades earlier in the nineteenth century, these new institutional forms finally came into their own by the first decade of the twentieth century.

The Trusts were especially important vehicles of credit creation and were completely outside the purview of even the token state bank supervision agencies. Originating as conservative investment vehicles for private estates and corporations after the Civil War, Trusts quickly evolved to assume activities similar to commercial and private banks. Unlike commercial banks, they could hold stock equity directly. They also heavily participated in railroad and industrial manufacturing company expansion. Unlike national banks, they were not required to hold reserves even though they took deposits, with the exception of New York State and then only after 1906. The Trusts were de facto hybrid commerical-shadow banks. Paying depositors higher than market interest rates, and able to engage in more risky, speculative ventures with depositors money without oversight by government agencies, they provided greater returns for their investors than did the commerical banks.

In the decade leading up to the Panic of 1907, the Trusts and other shadow banking institutions grew tremendously. In just New York alone, Trust assets quadrupled over the preceding decade, growing two and a half times as fast as those of banks and by 1907 were equivalent to nearly three-fourths the total assets of banks. Together with the state banks, whose assets also doubled over the same period, the combined Trust-state bank asset total exceeded that of the New York commercial banks.[3]

The investable assets of the Trusts were by the first decade of the new century nearly equal to that of the traditional commerical banking system. Trust company loans and credit grew to $610 million compared to $712 million by the national banks by 1907 and nearly doubled again by 1910.[4] Moreover, those numbers do not include credit extended by other shadow banks—for example, investment banks, and insurance companies. Including their credit and lending would put the shadow banking sector totals greater than the national commerical banking system banks.

From just a couple dozen institutions in the early 1890s, between 1890 and 1910, the assets of Trusts compared to the commercial bank—that is, the national banks and state banks were as follows:

The Trusts, other shadow banks, and the state and country banks together were now significantly larger than the entire commerical banking system. That meant roughly half of US total banking system was basically unsupervised and unregulated, while in the National Banking System, only partially so.

Having become the greater part of the entire financial system, the Trusts, shadow banks—as well as the state banks—were especially prone to finan-

Table 8.1. Banking Sector Assets: National, State, and Trusts

Banking Sector	1890	1910
National Banks	$915 mil.	$1,800 mil.
Trusts	$396	$1,394
State Banks	$297	$541

cial instability due to their practices of maintaining little or no reserves. The national banks' practice was to maintain 25 percent reserves. But that sector now constituted less than half of the total banking system. As the National Monetary Commission would report in 1910, "The cash reserves at the state banks and trust companies were notoriously inadequate. . . . Few trusts even held cash reserves."[5] Given that condition it was all the more important that some kind of central bank existed to restore banks' reserves in the event of losses and to prevent insolvency and bankruptcies that would freeze up the entire credit system. But there wasn't any central bank. Big banks would be left to somehow function as their own lenders of last resort among themselves. Or the Treasury would have to step in and provide that function also on an ad hoc emergency basis.

The Trusts/shadow banking system and the traditional commercial banking system were highly competitive with each other, but at the same time had become deeply interpenetrated and integrated. The commercial banks, centered in New York City, often set up their own Trusts and made loans from their bank side to their Trusts. Trust companies often also deposited huge sums with the banks, "but as few of the trust companies held cash reserves, in receiving deposits from them the banks were assuming a risk of a particularly explosive character."[6] This deep interpenetration meant that when the unregulated Trusts encountered runs and liquidity problems, those problems quickly spread to the commercial banks as well. Liquidity problems quickly became insolvency problems. Defaults and bankruptcies followed. The potential for contagion was thus growing as integration of commercial and shadow banking sectors ensured a panic in one financial sector would rapidly extend to the others.[7]

THE PANIC OF 1907

Conditions were being created once again after 1900 for yet another financial panic and crisis.

The composition of speculative investing in 1907 had shifted in important ways from financial crises in the late nineteenth century. Excess liquidity from the various sources was fueling speculative bubbles once again. However, railroads and railroad bonds were no longer central, and land specula-

tion associated with farm-business mortgages and urban development was at best secondary. At the center in 1907 was the commodity market, the stock market, and commodity-stock speculation. As one historian of the period noted, "This was speculation of the traditional kind, speculation for profits from increasing stock prices in a market characterized by new conditions like . . . the abundant flow of securities issued by new kinds of corporations and frenzied buying and selling. It rode up and down in several waves and collapsed with the Panic of 1907."[8] The composition changed. It was no longer predominantly bonds and land speculation based. Moreover, the stock market boom after 1900 sucked in new layers of middle-class investors for the first time as well.

The growth of manufacturing and industrial mergers accelerated rapidly in the decade following 1898, attaining a record momentum by the time the panic of 1907 emerged. Investor expectations of continuing, and even accelerating, stock price appreciation gave "encouragement to the unbridled optimism which was already too much in evidence"—all of "which was made possible through credits granted by the banks."[9] The Trusts, Investment banks, and state banks were particularly large speculators in the stock market as a consequence of their heavy commitment to providing call loans to investors for purposes of stock speculation.

Signs of trouble began to appear by late 1906. The $54 million in gold inflows to the United States in 1906 provoked a response by the Bank of England which, once again, reversed policy, raised its rates, and virtually halted gold flows to the United States by year end. In February 1907 credit and bank lending slowed, setting off what was then called the "rich men's panic" in the stock market in March. Another problem sign occurred in June when New York City failed to sell its bonds on two separate occasions. Indications of problems in stock markets in Europe and Japan appeared that summer as well. The US real economy then cooled in August and another stock market correction followed. Savvy investors began leaving the market.

On October 21, the Trust empires of commodity speculators, F. A. Heinze, C. F. Morse, and O. F. Thomas imploded. Their Trusts were integrated with banks they also owned—the Mercantile Bank, Mechanics Bank, and six other banks. The banks failed as the Trusts, to which they had made loans, went under. Heinze's Knickerbocker Trust led the collapse, as it tried and failed to corner the market for copper before copper prices collapsed. Although Knickerbocker Trust was a member of the New York Clearing House (NYCH) system, run by a consortium of big New York bankers, the big banks refused to bail out Knickerbocker, and $65 million in assets and the investment of eighteen thousand depositors disappeared.

In a first bailout attempt, the consortia put up $10 million. This failed to bail out Knickerbocker and resulted in major depositor runs—first on Knickerbocker and then dozens other Trusts in New York which also had ties to

other banks. The bank runs in New York quickly spread from the Trusts to various banks and brokerages in the final weeks of October 1907. A full-fledged banking panic was on.

An emergency group of big bankers led by J. P. Morgan quickly organized and raised money to bail out two other large Trusts—the Trust Company of America and the Lincoln Trust—to avoid a total collapse of Trusts and the banking sector in the city. Morgan put up $10 million, as did John D. Rockefeller but the collapse deepened. Another $25 million was raised from various banks and investors. However, it did not stop the bank runs. The US Treasury quickly contributed $25 million as well, for a total second pooled bailout of $70 million.[10]

This was in effect an ad hoc, emergency lender of last resort function led by big banks pooling their reserves, as they had on previous occasions and panics in earlier decades. But now it was not working so well as before. The magnitude of pooled resources required was now much greater than in the 1870s and 1890s. Many of the sixty banks associated with the New York Clearing House (NYCH) refused to participate in the pooling.

The panic in the Trusts sector and their integrated banks, still limited largely to New York, began to spread to the stock market and municipal bond markets. The Treasury exhausted its immediate cash resources, short of $5 million. Morgan's $70 million bailout had failed. He subsequently arranged another $30 million bailout—a third—on October 29 to stabilize the New York muni bond market and another $30 million to rescue more than sixty brokerage houses.

Unable to raise further cash for bailouts, the NYCH banks suspended cash payments (i.e., withdrawals). The NYCH then began to issue special "certificates" for its New York members to use to cover loans between each other—in effect creating a new kind of inter-bank money and de facto currency.

By November the panic and crisis had spread to the interior state banking system. With New York banks hoarding reserves and using certificates, credit was drying up throughout the system—in Chicago, St. Louis, and elsewhere—where 15,500 banks operated. State banks that had previously deposited most of their reserves in the New York banks demanded their reserves be returned from New York. The New York banks, however, suspended transfer to the interior, as well as to their own depositors. Interior banks suspended withdrawals as well. In a matter of a few months, both credit and liquidity dried up throughout virtually all regions of the US economy. With credit unavailable, in October 1907 alone nearly a thousand non-bank companies failed.[11] Tens of thousands more would follow in the next eighteen months, in what would prove to be the second-largest number of bankruptcies in the history of the United States up to that point.[12]

Various ad hoc emergency measures were introduced, especially in the interior, in order to address the growing problem of credit unavailability.

According to one commentator, seventy-one of the largest 145 US cities resorted to money substitutes and to printing of special local government "checks" in lieu of currency now in growing shortage. Two-thirds of all cities with a population over 25,000 were impacted in this way in some manner. In addition to the spread of bank runs, the financial crisis in the interior meant in some cases outright currency shortages. To counter the problem of both credit and cash drying up, new liquidity amounting to $238 million in the form of emergency certificates for loans just between banks were issued by clearinghouses in New York and other major cities.[13]

The US Treasury also provided further assistance by distributing tens of millions of dollars to large banks in the interior cities, depleting its total reserves down to only $5 million. The US Treasury in effect nearly went broke in trying to aid the big banks in restoring liquidity to the National Banking System.[14] The Treasury additionally sold $40 million more in special bonds using the Panama Canal as collateral, which allowed banks buying the Canal bonds to issue currency based on them at full purchase value.

Gold inflows to the United States from abroad were also arranged to help alleviate the liquidity shortage, as US banks still continued to hoard cash and refused to lend despite all the preceding efforts to restore their liquidity. A gold inflow of $96 million was enabled in November to December 1907, which compared to a paltry $4.5 million gold inflow in August to September.[15] J. P. Morgan and his emergency rescue committee raised an additional $30 million to stave off the collapse of the New York stock market, plus an additional $30 million to bail out the city of New York.

Despite all these bailouts, rescues, and liquidity injections, the crisis of confidence continued throughout October, reaching a peak in early November. Having barely stabilized the Trusts, the implosion of the shadow banking sector shifted that month to another sector, the large brokerage houses. At the center was the major brokerage firm Moore and Schley. It had financial tentacles into many directions, including major industrial companies as well as deep in the stock market. Testifying four years later to Congress, J. P. Morgan explained that if Moore and Schley had been also allowed to fail following Knickerbocker, it would have provoked an even more serious financial crisis. As Morgan put it, "If Moore and Schley go there is no telling what the effect on Wall Street will be and on financial institutions in New York, and how many other houses will drop with it, and how many banks might be included in the consequences."[16]

The new injections of liquidity by Morgan, the NYCH, the US Treasury, from "cash substitutes," and from London banks stabilized the initial banking panic by the end of December. But not before seventy-three banks failed in the final months of 1907 with liabilities of roughly $200 million. The failures underestimate the full scope of the financial crisis at the time, however. There were far more temporary bank suspensions than failures. Neither fail-

ures nor suspensions account for banks that merged or were acquired. Moreover, data for suspensions and failures of smaller institutions in the interior was notoriously lacking. Nor do failures and suspensions reflect the widespread bank runs that occurred throughout the country, and the unknown massive losses to individual depositors. Nor do such data reflect the severe impact suspending cash payments had on nonbank businesses, bankruptcies, or the emergency reorganizations of tens of thousands of nonfinancial businesses.

As the main chronicler of the 1907 panic, O. M. Sprague, noted in 1910, the New York banks for months thereafter continued to hoard the massive amounts of reserves that had been pumped into them during the crisis months, which they continued to refuse to disburse to the interior or allow their depositors to withdraw. The big New York banks simply refused to reinstitute cash payments and sat on reserves of as much as $250 million until as late as January 1908, three months after the panic initially began in early October 1907 and well after the banks had been stabilized. Sprague noted further, by way of comparison, that the Bank of England at the time had only reserves of $24 million—not $250 million—but nevertheless disbursed $7 million in early November 1907 without suspending cash payments.[17] The refusal of the big New York banks to lend despite restored liquidity was a major cause of the subsequent severe contraction in the real, nonfinancial economy in the interior and throughout the country in 1908. Thus, 1907 proved to be "the most severe of the national banking era panics."[18]

CENTRAL BANKING NOW ON THE AGENDA

It is generally recognized that Morgan's money pools did not stop the bank runs. And that the issuing of certificates was too long delayed in coming. The decision to announce the failure of the Knickerbocker Trust exacerbated the crisis, and the suspension of cash payments destroyed confidence and intensified the crisis in the interior significantly. The New York Clearing House banks clearly failed as a collective lender of last resort. Most of the sixty banks of the NYCH refused to pool reserves and hoarded them instead. The New York banks thus did not commit much of their total reserves available, and chose instead to suspend cash withdrawals and refused to assist the interior banks. They let the Treasury provide the lion's share of the bailout of the Trusts and 15,500 banks in the interior, while the New York Clearing House focused on bailing out the stock market, brokerages, and their loans to the city—that is, where they themselves were the most exposed. The Treasury's $70 million and subsequent $40 million based on Panama Canal as collateral probably prevented a total collapse. But it was J. P. Morgan's

syndicate which called the shots and made the decisions when and whom would be bailed out.

What the lender of last resort function performance during the 1907 crisis shows is that the private banks would no longer collectively ensure the stability of the banking system as a whole. As private profit-seeking institutions, both individually and as a group, they took care of their own local New York business interests first. This was clearly evident in their hesitancy to issue certificates, waiting for the Treasury to deliver resources first; in their refusal to fully pool their reserves; and in their suspension of cash withdrawals and refusal to release interior banks' reserves which they held onto.

The panic subsided only after the Treasury bailed out the Trusts and interior banks, Morgan checked the collapse of the brokerages, and once again gold flows from Britain reversed and flowed back to the United States, increasing the money supply and restoring confidence. Ninety-six million dollars in gold inflows occurred in November–December alone. Despite this specie inflow, the New York banks still did not end the suspension of cash payments even though their reserves ratio declined only from 26 percent to 20 percent during the crisis. They had plenty of reserves available. They clearly settled into a hoarding mode. Their cash reserves actually increased during November to December. They just preferred to have the Treasury put up the funds or have investors, like Morgan, with much to personally lose, arrange pooling of funds on an ad hoc basis. The issuance of certificates indicates the New York Clearing House banks functioned as a lender of last resort for the New York banks only! Other financial institutions, even in New York, were left for others to bail out, while the interior banks were abandoned either to their own rescue efforts or to the Treasury.

The Panic of 1907 was the most severe banking panic and financial crash under the National Banking System since the Civil War. The run-up to the crisis shows how woefully the money supply was managed. No effort was made to adjust to the rapidly changing banking structure of Trusts and other shadow banks that were running amok with speculative investing excesses in commodities, stocks, and other financial assets. Shadow banking supervision in particular was nonexistent and state banks supervision fragmented and ineffective. Clearinghouses remained city-centric with no integration, while New York's NYCH focused inward and refused to take the lead nationally. Reserves were grossly insufficient, poorly distributed and inflexible. The gold standard and the Bank of England exacerbated problems at the outside causing massive money inflows and outflows to Britain.

The consequences of all this was that eighty-nine banks failed with total liabilities of $206 million. Loans declined by 43 percent, deposits by 33 percent, and total cash reserves nationwide by 20 percent. Total resources contracted by $363 million.[19] And this was just on the financial side. The contraction of loans, and the sharp rise in interest rates that followed, quickly

spilled over to the real economy, as financial crashes typically do, in the process exacerbating a recession that had already begun in 1907.

The fundamental and general conclusion from the banking panic of 1907 was that the private banking system could not, or would not, effectively assume central banking functions. The private interests of the banks would always take precedence in the crisis. Even the bankers themselves now knew it. The Treasury stepped in only after the crisis was well under way, and did so piecemeal and insufficiently. In the process it expended nearly all its cash assets and had to offer bonds with the Panama Canal as collateral. The financial system had simply grown too large, too complex, and too interconnected for private system approaches to central banking. A totally new approach and solution was necessary. And that was coming. Debate over its exact form would take another six years before the Federal Reserve System was finally created. The key question, however, was how to create the new institution and new solution, while still maintaining private bankers' influence and control of it? How to balance the opposition of state banks to New York and other big-city eastern banks taking the lead and to create a new central bank? And how to do without the Treasury, part of the government, appearing as if it was bailing out the banks with taxpayer money.

NOTES

1. O.M. Sprague, *History of Crises under the National Banking System: National Monetary Commission Report*, Government Printing Office, Washington, DC, 1910; reprinted by Augustus Kelley Publishers, New York, 1977, p. 276.
2. Their financial offspring today are hedge funds, asset management firms, private equity, boutique banks, etc.
3. Jon Moen and Ellis Tallman, "The Bank Panic of 1907: The Role of the Trust Companies," *Journal of Economic History,* 52, no. 3 (1992), p. 612.
4. Sprague, *National Monetary Commission Report*, p. 227.
5. Sprague, p. 226.
6. Sprague, p. 236.
7. Wicker, *Banking Panics of the Gilded Age*, p. 83.
8. Mitchell, *The Speculation Economy*, p. 193.
9. Sprague, p. 240.
10. Wicker, p. 99.
11. Wicker, p. 87.
12. Robert Bruner and Sean Carr, *The Panic of 1907*, John Wiley, Hoboken, NJ, 2007, p. 142.
13. Sprague, p. 314.
14. Wicker, p. 99.
15. Sprague, p. 284. Wicker estimates the same period gold inflow at $208.4 million. The inflow was the result of record export sales (paid in gold) from the United States. This very large gold inflow to the United States (and outflow from Europe) in turn caused significant economic stress in Europe. Interest rates as a consequence rose in the latter, causing an economic slowdown. As would be the case again in the future, the United States was in effect exporting its economic crisis abroad.
16. Quoted in Wicker, p. 96.
17. Sprague, p. 278.

18. Wicker, p. 112.
19. Wicker, p. 107.

Chapter Nine

The Road to the Fed 1903–1913

The US Federal Reserve Bank (hereafter Fed) was largely a creation of the big private commercial banks of New York. Contrary to a widely held view, it was not the grassroots protests and the Progressive Movement of the pre–World War I period that originated the idea of a central bank.[1] It was the New York big bankers themselves—the National City Bank (the largest commercial bank in the United States at the time), JP Morgan and Co. (with direct ties to the biggest New York Trusts), Kuhn, Loeb and Co., Chase National Bank, Bankers Trust, and First National Bank of New York that led the drive to introduce a US central bank in a separate institution form. They raised, fundamentally defined, and then lobbied successfully to convert the National Banking System, of which they were then part, into a more centralized Federal Reserve System.

Since the early 1890s, financial instability events of varying degrees were occurring every three years or so. And the crash of 1907, as a financial crisis, was actually more serious than similar financial crises in the late nineteenth century. Since most of the National Banking System's bank reserves were highly concentrated in New York, every time a crisis or bank stringency erupted the big New York banks were called upon in the post–Civil War period to pool and commit their collective reserves to stem the crisis—to stabilize not only the crisis in New York but the rest of the banking system in the interior. In 1907 this solution broke down. Given the greater magnitude of the financial crisis, the New York banks resorted to self-protection first—at the expense of the rest of the 15,500 banks in the economy.

The rescue of the interior banks was left to the Treasury and their state and local governments. In the process the Treasury virtually exhausted its reserves. The federal government and Congress were exposed to severe public criticism for directly bailing out the New York Trusts in particular, as well

as having "mortgaged" the Panama Canal. The public deeply resented the federal government, that is, the Treasury, bailing out New York shadow (Trusts) bankers who were viewed as having caused the financial crisis and the consequent recession in the first place. The bankers were rescued in 1907–1908 but the public was left with a chronic stagnation of the economy from 1908 to 1913, characterized by a double-dip recession and two short, shallow recoveries.[2]

In 1907 the banks had failed to keep adequate reserves on hand to weather a crisis. Even the National Banks, that were required to keep 25 percent reserves, did not do so. The New York banks considered 25 percent too high and unnecessary. Every dollar kept as reserves was a dollar that could not be loaned out for profit. Even the 25 percent held by the National Banking System would prove insufficient in 1907, however, since reserves far less than 25 percent were held by interior banks and the shadow banks, like the Trusts. When all segments of the banking system are considered—National Banks, interior state and community banks, shadow banks, and Trusts, etc.—the total reserves were likely no more than 10 percent throughout the banking system. And bank losses were significantly higher than that.

The New York National Banks faced the choice whether to use their 25 percent reserves to prevent their own collapse, or to distribute it to their branches in the interior to provide their bailout. They chose to hoard reserves and protect themselves—at the expense of the rest of the National Banking System.

What the New York and other big eastern National Banks in Philadelphia and Boston wanted was a new reserves arrangement, whereby they would not be required to keep such large (25 percent) excess reserves or to share their reserves with interior banks whenever a crisis emerged. Some other source should provide the reserves to rescue banks when they experienced a liquidity, and then an insolvency, problem during a financial crisis.

The problem of insufficient reserves (or refusal to share reserves) was exacerbated by the integration of the US financial system with London and Europe. As previous chapters have shown, this integration was always a problem. While it benefited US economic growth in good times, it exacerbated downturns and instability periodically as well. Whenever London gold flowed into the United States due to interest-rate differentials or high demand for US exports, or due to financial stress or recession in Europe, the Bank of England eventually responded by raising British rates to divert US gold flows back to London. That drained reserves in the New York banks as well, usually at times when US reserves were insufficient or being hoarded. Without a central bank tasked with better managing reserves and money supply, the US banking system was chronically exposed to instability from abroad. And with no lender of last resort function, bailouts were messy, behind-the-curve reactionary, and politically costly for elected officials.

In addition to domestic and foreign sources of instability, reserves required also fluctuated widely with seasonal demand by state and county banks in the agricultural interior of the economy. Typically in the spring planting and then fall harvest seasons, reserves held in the New York and other eastern banks of the National Banking System required the New York banks to distribute their excess reserves back to the interior banks to finance agriculture trade. Banking panics historically in the United States were often timed with either harvests, when not subject to radical London interest-rate shifts.

Regulating and ensuring adequate reserves was thus a major problem in the US banking system for decades. But by 1907 this had become an even greater problem. The Treasury and National Banking System was proving inadequate at stabilizing reserves in the larger banking system, and especially so during a crisis when demand for liquidity fluctuated volatilely. Money supply management under the National Banking System was clearly failing at ensuring stability.

Bank supervision was a problem as well. The more than 15,500 state and country banks, the fast growing numbers of Trusts and stock-market brokerages, the growing entry of insurance companies in banking-like activities, and so forth, were all unsupervised. As most were outside the National Banking System, the New York banks had little leverage to influence bank behavior. Nor did the Treasury supervise either the National Banks or the interior, viewing the task as basically a states' responsibility. Nor were the Trusts and shadow banks supervised, even though the growing numbers, assets controlled, and weight of both the state banks and shadow banks required a better approach to private bank supervision. Thus, the private banking system across all segments was growing more unstable, while supervision of what was an increasingly complex system was falling further behind the curve.

Equally serious for the New York banks was the lack of a single currency at the time. By the end of the first decade of the twentieth century, the US economy was larger than any of the European economies. Its accumulation of gold was among the largest. The United States held 40 percent of total world banking capital, largely concentrated in the big New York and northeast banks.[3] But those same New York banks were still junior partners on the global stage to their European cousins. They had no foreign branches. Whenever they wanted to finance deals elsewhere in the world, they had to do so through European banks in England, France or Germany. The latter, of course, took a major "cut" in the form of fees for their services. This arrangement reduced New York bank profits. The New York banks therefore saw a more centralized bank with a single currency as a necessary requisite for their needs and future plans to expand globally.

To summarize: a more workable—and less costly—reserves system, an institution assuming responsibility for supervising and bailing out the rest of

the fifteen thousand US regional banks and the growing number of shadow banks, and a single currency necessary for global US banking expansion would all significantly benefit the "bottom line" of the New York banks. A central bank would mean the big New York banks would solidify their dominance and hegemony over the US banking system, finally become global players, as well as increase their direct political influence in Washington, DC, and within the US political system. It would also take the heat off the politicians whenever crises occurred and bailouts were necessary. The central bank would do the "bailing out," not Congress or the government.

In other words, an institutionally separate central bank was necessary, with new central banking functions of lender of last resort to implement bailouts, a better system of bank supervision extending beyond the National Banks, with a monopoly of a single national currency to get better control over the paper currency money supply, and better tools with which to manage reserves requirements and the money supply.

But it couldn't be called a "central bank," as in Britain or Europe. Given the decades of constant financial instability and crashes, culminating in either depressions or epic recessions, popular sentiment in the United States was very anti–big bank.[4] General public opinion viewed efforts to create a more centralized banking system as a backhanded way of strengthening the big east coast banks, especially Wall Sreet banks. That anti–big eastern bank sentiment was baked into the US culture going back to the 1780s. Centralization was suspect, and banking system centralization especially so. The likelihood that a central bank would be located in Washington, moreover, was another reason to suspect that a cartel of big New York banks might take over the government.

The growing influence of the grassroots Progressive Movement at the time was opposed to centralized authority in Washington, economic or political. It was anti-bank and therefore anti-central bank. As one well-known economic historian summarized the post-1907 banking crash economic stagnation and double-dip recession that beset the real economy, "Of the 78 months covered by the 1908–1912 and 1912–1914 cycles, only 31 were in the two expansion phases, 47 in the two contraction phases, or only 0.66 months of expansion per month of contraction."[5]

Due to widespread public opposition to centralization, the leaders of the big New York banks convinced of the need for a central bank did not promote it as a "central bank" per se, but as a "system of regional reserves holding agencies," as they would officially call it. From this would come the reference to the US central bank as the "Federal Reserve Bank" and system. Federal meant decentralized.

THE FED AS BRAINCHILD OF THE NEW YORK BANKS

The leading figures of the big New York banks and Wall St. behind the push for a central bank included Jacob Schiff (Kuhn, Loeb and National City Bank of New York), Paul Warburg (Kuhn, Loeb and Co.), Henry Davison (Bankers Trust, JP Morgan), Benjamin Strong (Bankers Trust, JP Morgan), Frank Vanderlip (National City Bank of New York), and later James Stillman, chairman of National City Bank who had close ties through marriage with the Rockefeller Trusts and banking interests, and, of course, J. P. Morgan himself. Benjamin Strong appears to have been a later addition to the group. Their individual and collective initiatives to create a central bank were launched well before the 1907 panic and crash.

The group had powerful connections deep within the federal government. In addition to being among that group of New York bankers pushing for a central bank, Frank Vanderlip also served as Assistant Secretary of the Treasury from 1909 to 1919. Their main advocate and political ally, however, was the powerful Senator from Rhode Island, Nelson Aldrich, who was head of the Senate Finance Committee and a major power broker on legislation involving currency and tariffs for decades. A multimillionaire himself, Aldrich was especially well connected by marriages of his offspring with Rockefeller interests and shared direct economic interests with the powerful Sugar Trust, big railroads, and J. P. Morgan as well.[6] Aldrich often received special access on stock deals from all the above, and in turn ensured legislation passage from which they benefitted nicely.

What Wall Street especially wanted from a new central banking act was a single currency plus a way to reduce state and country banks' role in the distribution of banking reserves. The single currency would enable them to become global players and the change in reserves sharing would allow them to assert greater control over the state and country banks. They wanted more centralized control over the banking system's reserves as well as a national system of clearinghouses in major cities that the New York banks' own clearinghouse might dominate. Finally, they wanted a new institutional arrangement was needed to rescue the Trusts, brokerages, and other shadow banks, so they would not have to risk pooling their resources to bail them out, or each other.

THE ROAD TO THE FED

As early as 1903 the New York big bankers began raising the call for a central bank. But memories of the 1890s and recurrent financial crises were too fresh at the time to push a proposal that would give big banks even more control over the monetary system. Time was running out, however. The more

prescient among the New York banking elite saw the credit bubble once again building dangerously by 1906. There were credit problems following the San Francisco earthquake that year that sent already insufficient reserves west for rebuilding. Moreover, borrowing by the Roosevelt government to fund the Panama Canal depleted Treasury reserves further—while economic instability in Europe at the same time threatened once again to send boatloads of US gold across the Atlantic by early 1907.

Reflecting the instability and the anticipated money supply shortage, in early 1907 New York short-term market interest rates accelerated from 10 percent to 25 percent. In response, the New York Chamber of Commerce set up a special emergency committee to study what it called the "currency problem." The New York Chamber of Commerce report eventually called for a "central bank of banks" that would issue currency but not participate in private banking activities—as had the previous 1st and 2nd Banks of the United States. That is, a bank for the bankers that would lend only to private banks and not compete with them in private markets. This rejection of a hybrid public bank (and the Hamiltonian vision) was a major evolution on the road to a twentieth-century-like central bank.

From 1898 to 1906 a number of currency reform bills were proposed and some passed, like the Gold Standard Act of 1900 which removed silver as co-specie money in the United States. The act was viewed by the interior banks and businesses as a ploy by the New York banks to control gold and thus the money supply. It intensified their opposition to what were viewed as "eastern money" maneuvers to further control the banking system.

In 1902 a bill crafted by leaders of Morgan's Chase National Bank and the New York–dominated American Bankers Association was introduced in Congress, aimed at allowing the New York banks to expand their branches in the interior as well as abroad. Called the Fowler Bill, it proposed to create within the Treasury Department a committee to oversee expanding bank notes and integrating regional clearinghouse associations. The Fowler Bill recognized the need for the Treasury to improve influence over the money supply and to improve bank-to-bank coordination in potential bank crises situations. Both amounted to expanding central banking functions, albeit located within the institution of the US Treasury. The bill was defeated, however, as were subsequent efforts by New York banking interests to expand the money supply under their control.

Thereafter, during 1905 the big banks shifted their efforts to the US Treasury, firmly allied with them under the Republican administrations of McKinley and Roosevelt. The banks sought to get the Treasury to deposit more government funds with them on preferred basis.[7] This preferential treatment afforded to the New York banks raised further fears by business and banking forces outside New York that developing more central bank-like

functions in the US Treasury was a political ploy designed to give more influence to the Wall Street banks.

An important initiating event on the road to the Fed was a presentation by Jacob Schiff, head of the Kuhn, Loeb and Co. investment bank, to the New York Chamber of Commerce in 1905. Schiff's proposal, reportedly prepared by Paul Warburg—a major central bank proponent and émigré from Germany—called not only for currency reform but a new institutional arrangement for providing reserves to the banks.

The New York Chamber of Commerce followed up Schiff's presentation by creating a commission to craft a formal proposal, which was reported out in October 1906. It called for the creation of a single currency under the control of the Treasury. The Commission's report rejected the idea of using the Treasury as a central bank in a broader sense, however. Wall St. wanted a central bank, but one clearly under its control, not the government's. The New York banks wanted to expand their reserves and have a single currency but at the same time were concerned about losing control over interior banks' reserves.

To resolve this dilemma, Paul Warburg, of Kuhn, Loeb and Co., who had direct experience in family banking in Germany which operated under a central bank there, laid out his proposals for establishing the same in the United States. In early 1907 he wrote and distributed two private articles: "Defects and Needs of Our Banking Systems," and a subsequent further clarification, "A Plan for a Modified Central Bank."[8] The New York bankers were clarifying and defining what they meant by a central bank.

The essence of currency-reserves reform in Warburg's articles was to allow Wall St. bankers to create new financial securities (i.e., commercial paper, bankers' acceptances, etc.) that the new central bank would buy directly from them, providing in exchange the new single currency issued by the proposed new central bank. The central bank could thereby expand the reserves and money supply in a crisis situation by purchasing these new forms of banker-created currency. But it would not be the US Treasury that would do this. It would be the new institution of the central bank—an institution managed and run by the bankers themselves. The central bank could expand the money supply through them, the New York banks, which in turn would regulate reserves of the interior banks. That way they might get access to an external source of reserves when needed, but retain influence over the interior banks' reserves as before.

Then the panic of 1907 hit in October 1907. As in other panics, banks hoarded their reserves and currency, suspended payments to depositors, and the thousands of different currencies and bank notes collapsed in value as fifteen thousand banks competed for credit as available reserves declined. In short, money dried up. The credit system ground to a halt. And banks went either bankrupt or into banking hibernation, while hundreds of thousands

nonbank businesses defaulted and went belly-up. There was no institution to serve as lender of last resort to save banks or awaken them from their credit deep-sleep and hoarding. Warburg and Wall Street now saw the opportunity to introduce their version of a central bank solution.

In December 1907 Schiff arranged a meeting between Warburg and Senator Nelson Aldrich at Kuhn, Loeb and Co. offices in Wall St. Warburg explained his "modified central bank" proposal to Aldrich, who adapted part of it in his emergency legislation in Congress that became the Aldrich-Vreeland Act of 1908. This act allowed for creation of groups of ten national banks to form "national currency associations" which, in emergencies, could use their pooled assets to apply for additional reserves from the New York and other big-city national banks. This proposal was, in essence, a measure to extend the New York Clearing House to other cities. "Aldrich-Vreeland authorized what the clearinghouses had already been doing all along but widened coverage to include non-clearinghouse members."[9]

The act also authorized the Treasury to issue more bank notes in emergencies. Leaving the door open to still further measures, it created a National Monetary Commission to study and later recommend further actions. The act also confronted the separate central bank idea head-on. It made a key recommendation "for the creation of a central bank controlled by the bankers themselves with voluntary membership, organized around a national reserve association with fifteen regional associations."[10]

So a further expanded reserve associations idea, with clearinghouses, was now being proposed: a tier of fifteen regional associations with a national umbrella association above that, the latter no doubt to be located in New York and controlled by the big banks. It was beginning to look like a Federal Reserve with fifteen districts, each with a degree of control over their regional reserves and money supply—with an umbrella region located in New York. How the New York's region would differ in authority from the other fourteen regions was not yet defined. But the implication was that New York would have special authority with regard to reserves and money supply regulation somehow.

While the New York bankers and the National Monetary Commission were floating proposals for a central bank structure, a totally different approach to the "insufficient reserves in a crisis problem" was being developed and introduced by some states. One proposal was that the development of "deposit insurance." If depositors knew their deposits in the banks were insured, they would not demand to withdraw them in a crisis. The banks would then not have to hoard cash and reserves in anticipation of withdrawal. With reserves available and still adequate, interior banks would not have to rely on New York and eastern banks to return their reserves (previously deposited in New York) to cover depositor withdrawals in the event of a crisis. Runs on the interior banks would be minimized and there was thus no

need of a lender of last resort support function, the proposals suggested. But this was a solution favoring the state banks, not the New York banks. A small number of Midwest states adopted this approach, which was denounced by then President Taft in the 1908 elections. Politicians and candidates connected to the New York banks preferred, like the banks, a solution in which New York bankers might dominate the interior banks.

With the Aldrich-Warburg-Wall Street central bank approach temporarily stymied, Aldrich and a committee set up by the National Monetary Commission embarked on tours of Europe to understand how big bankers there had successfully implemented a highly centralized system from which they could benefit and dominate the rest of their banking systems. The Bank of England looked particularly interesting. There the Bank remained privately run (and thus open to control by big investors), but still issued notes, managed the country's gold supply, set interest rates, and acted as the government's fiscal agent. It was a model more or less attractive to Wall Street. Like London, the Paris and Berlin central banks were also "owned by private shareholders and held the national reserve."[11]

Meeting with James Stillman of the National Bank of New York (the largest and most powerful in the United States) in Paris during his tour of Europe, Stillman recommended that Aldrich draw up a secret plan based on European Central Banking and present it to Congress in the United States. The plan was presented to the elite-only "Economic Club of New York" in late 1909. Instead of calling it a "central" bank, whether modified or not, a more publicly acceptable term, a "United Reserve Bank," was how Aldrich and Warburg referred to it in their public presentations in 1910. "United" would later be substituted with "Federal." The various proposals were quietly communicated among the banking community throughout the 1910 election year.

JEKYLL ISLAND

After the November 1910 national elections, Stillman again urged Aldrich to convene a private bankers meeting to get the central bank proposals on track politically once again, which Aldrich did. And once again it was done with the utmost secrecy. The conclave of bankers convened completely isolated from the press, the public, and politicians. This time in a warmer November clime off the coast of Georgia, at the Jekyll Island Club on the island of the same name, which was founded in 1885 as an exclusive retreat for only the richest American capitalists. Details and arrangements were made by one of the club's co-owners and its most exclusive member, J. P. Morgan, for the Aldrich-banker group's stay. Morgan reportedly also cleared the hotel of all other guests the week of the group's meeting.

The cover story for the press was that it was just a "duck hunting expedition." They were hunting all right, but the prey wasn't ducks. The prey was the state and country banks and the National Banking System itself—with the goal of the further subordination of the state banks and the creation of a single currency, necessary for Wall Street to project itself as a major force onto the global banking stage and international finance.

The proposals that came out of the Jekyll Island meeting included the creation now of a three-tiered "reserve associations" structure and an integrated clearinghouse system that was recommended, but not yet implemented, by the Aldrich–Vreeland Act in 1908. All participating banks—national, state or local country—would belong to a local reserve association and clearinghouse. They would send representatives to one of fifteen district association/clearing houses distributed across the country. At the top, above them, was a national Reserve Association in Washington. The banks at each level would elect boards to govern their daily operations. But since larger banks had more shares, they would have more votes on each board. The districts would hold reserves and issue a new single currency provided by Washington. The loans and notes of member banks (e.g., commercial paper) could be exchanged at the association for the new currency issued by the national Washington association. The old state bank currencies could no longer issue currencies. The New York association would have exclusive management over currency trading with Europe.

It was the highest level, the Washington Reserve Association, that dictated policy, which included setting a single interest rate—called a discount rate—for the country. Washington controlled the allocation of reserves to the second-tier fifteen districts in an emergency, and the fifteen districts controlled the allocation to the state, country, and other unaffiliated banks at the local level. Existing state banks could join the new system voluntarily. But if they chose not to they then had no access to emergency reserves. Finally, in a vestige of Hamiltonian legacy, any profits earned by the associations did not accrue to the government but were paid as dividends to the member banks.

In this structure, there was no doubt that bankers would run the show at the highest level, not government. The president was allowed to choose the governor of the Washington Reserve Association, the highest tier, but only from a list provided by the bankers. Moreover, "thirty-nine of the forty-five directors assigned to the highest tier were required to be either bankers or industry representatives chosen by bankers; only six were government appointees." As Warburg later described it, "it was strictly a bankers' bank."[12] The Jekyll Island–Aldrich plan was thus the first concrete proposal to establish a central bank and would become a template of sorts for the eventual Federal Reserve Act passed in December 1913.

During 1911–1912, the Aldrich plan was communicated and sold to the greater US banking industry, and nonbanking businesses as well, throughout

in the interior. Morgan, Stillman, and other New York bankers immediately endorsed it. Presentations were thereafter set up for the American Bankers Association and regionally. Nearly all the US banking industry endorsed the plan. By the end of 1911, "the nation's banking community was now solidly lined up behind the drive for a central bank."[13]

A note about Jekyll Island: As banks and central banks have fallen into more widespread disfavor in recent years, books and publications have appeared suggesting Jekyll Island was a conspiracy. This is in part due no doubt to the 1910 meeting unreported by the press of the day and that gained public awareness only in 1916. The failure to publicly report the meeting is conducive to assuming, as the more Libertarian right today does, that it was therefore a conspiracy.[14] Central banks are therefore the consequence of bankers' secret plots to gain control of currency, enrich themselves, while burying everyone else in debt. But Jekyll Island was no more a secret conspiracy than were the formation of the big industrial Trusts by Rockefeller, Carnegie, and others at the time, implementing their private strategies and schemes to conquer and absorb their smaller, less powerful industrial competitors. US economic history includes a constant competition and even conflict between the state and country banks and the big New York and east coast banks. The latter have always tried to assert control, if not influence over the former; while the banks in the interior, smaller but larger in number, always resented interference by the "center." The Federal Reserve System solution of 1913 would create a clever integration of the two banking sectors.

FROM JEKYLL TO THE FEDERAL RESERVE ACT

During 1911 and 1912 the Aldrich-Jekyll Island proposals were taken to the business community to get buy-in in preparation for eventual intense lobbying of Congress for passage of a central bank bill. During that period the Aldrich plan was revised, soliciting input from the state and interior banks, and then from Democrat party politicians who controlled Congress and the presidency in 1912. Reference in the Aldrich plan to Reserve Association at the Washington level was changed to the National Reserve Association. Concessions on the single national currency were made to the state banks. Democrat politicians who condemned the Aldrich plan as a takeover by the big banks during the 1912 election fell in line after the election. They supported the idea of a central bank, but only after their demands were adopted to make the structure appear more decentralized. While there would be a National Association in Washington, in effect the decentralized Fed districts were initially very autonomous, determining their own reserves and interest rates for their own regions.

The Democrat's election period opposition was thus more tactical and opportunistic than fundamental. While their Congressional candidates and presidential nominee, Woodrow Wilson, attacked the Aldrich plan publicly, Wilson's main policy advisers, like Henry Morgenthau and E. M. House, were meeting with Warburg and other banker members of the Jekyll Island group repeatedly during 1913. Discussions focused on how to get a central bank bill passed without it looking like a Wall Street big bank takeover and centralization of economic power.

Wilson and Aldrich thereafter met one on to hash out compromises. Wilson's complaint was the plan still appeared too centralized and pro-big New York bank. Aldrich wanted to retain the essential elements benefiting the big banks—that is, single currency, influence over reserves, bank bailouts, and the like, so that they, the Wall Street big banks, didn't have to pool their reserves for bank bailouts, especially for Trusts and shadow banks. The task was to make it appear as if the central bank bill was really a decentralized (and therefore more democratic and populist) reform proposal. A compromise to that effect between Aldrich and Wilson was hammered out in direct negotiations in early June 1913. Another compromise was crafted later in June 1913 with Carter Glass, the Democrat Congressman who had proposed his own, even more decentralized version, of the central bank bill.

What Glass proposed was a system of fifteen or twenty regional central banks essentially independent of each other. Each would issue notes and be privately owned by their member banks. They would operate all independently from each other. Member banks' reserves would be placed in their regional central bank, not in Washington or New York. It was a system of "silos of credit dispersed across the length of the country . . . each area represented by a bank that was its own duchy, autonomous, private."[15] The only centralization feature was that each regional central bank reported to the Comptroller of the Currency in Washington, the "toothless" National Banking System regulator.

Wilson rejected Glass's extreme decentralization proposal, siding more with Warburg's more centralized approach. However, the central bank's national board would reside in Washington instead of New York to downplay the New York banks' influence. Wilson was now firmly behind the Warburg plan favoring the big banks, so long as it had the proper window dressing of decentralization.

The essence of the Aldrich plan remained, while the appearance of more government and democratic control was overlaid onto the basic elements that directly benefitted the big New York banks—that is, single currency, concentration of reserves in the big banks, a broad definition of the various local bank securities eligible for exchange for the new national currency, a "window" at the central bank offices in New York at which banks in trouble could

borrow at a discount rate in the event of emergencies, a national level interest rate (discount rate), and so on.

The appearance of decentralization was to give powers not to a national central bank board in Washington, but to the districts of the system. The banks themselves would manage and run the districts as they wanted. But the New York district would be the most powerful among the districts. It would function as the true central bank, the more equal among equals in relation to the other districts, and more powerful than even the national board in Washington—the authority of which was nominal not operational. The New York Fed was more of a de facto central bank, just as the Aldrich group and New York banking interests envisioned. The New York banks got their single currency, exclusive control over foreign bank relations, and retained influence over reserves. The state banks got to select their own district regional managers, set own interest rates, and largely manage their own affairs. No bank supervision interference from the center was built into the system. Nor was the lender of last resort function clearly defined. The absence of these latter two central banking functions would eventually come to haunt the Federal Reserve System as initially structured in 1913. But that test would not occur until 1930, when a series of four banking crashes occurred, 1930–1933, would lead to major reforms of the Federal Reserve Bank and relegate it to a subordinate role in monetary affairs, for the next several decades.

NOTES

1. Some sources identify the origins as far back as the depression of the 1890s, and the formation of the Indianapolis Monetary Convention in late 1896. But this was the interior state and country banks pressing for currency reform, not a central bank per se. Currency reform became part of the demand for a central bank, but in the pre-1907 crisis period it was in lieu of a central bank. The Convention was definitely not a grassroots progressive movement event. See Murray Rothbard, *A History of Money and Banking in the United States*, Ludwig von Mises Institute, Auburn, Ala., 2002, for this incorrect interpretation of the origins of the movement for a central bank.

2. This chronic slow-to-stagnant growth following the 1907 financial crash I have described as an "epic" recession. See Jack Rasmus, *Epic Recession: Prelude to Global Depression*, Pluto Books, London, 2010. A similar "epic" recession following a financial instability event occurred in 2008–2009. For a comparison of the two financial crashes and subsequent "epic recessions," see pp. 152–56.

3. Roger Lowenstein, *America's Bank*, Penguin Books, New York, 2015, p. 48.

4. The chronic recession that followed, from 1908 to 1913, was in many ways similar to the most recent "great recession" that followed the 2008–2009 financial crisis. After 1907 the "recovery" of the real economy barely occurred. It was characterized by "short, shallow" growth periods, followed by "brief, recurrent" recessions. The averaging out of the weak recoveries and subsequent economic relapses added up to a stagnation in real terms. The 1907–1913 period was the first "great recession," or "epic" recession, as I prefer to call it, in the United States.

5. Milton Friedman and Anna Schwartz, *A Monetary History of the United States, 1867–1960*, Princeton University Press, Princeton, NJ, 1993, p. 173.

6. Marriage of his daughter with Rockefeller's son would produce a grandson, Nelson Rockefeller, who decades later at mid-century would become the preeminent banker in the United States, and a US vice president for a period.

7. Treasury deposits meant more reserves and money in their banks with which to lend out and make profits.

8. These seminal articles are collected in Paul Warburg, *Essays on Banking Reform in the United States*, Academy of Political Science, New York, 1914.

9. Atack and Passell, p. 517.

10. Atack and Passell, p. 517.

11. Lowenstein, p. 84.

12. Lowenstein, p. 114.

13. Rothbard, *A History of Money and Banking in the United States*, p. 75.

14. Perhaps the best known is the former writer for the radical right John Birch Society organization, G. Edward Griffin, *The Creature from Jekyll Island: A Second Look at the Federal Reserve*, American Media, New York, 1994.

15. Lowenstein, p. 182.

Conclusion

Hamilton's Vision . . . Hamilton's Fed?

To what extent might one conclude that the 1913 Fed was a reflection of Hamilton's vision of a central bank? What was positive about that vision that became embedded in the 1913 Fed? And what was negative about the Hamiltonian vision that was carried forward in the 1913 Fed that led to the Fed errors and failures during the 1920s and after?

Hamilton envisioned a hybrid private-public central bank. It carried out central banking functions in part, on behalf of the Treasury and the government. But it also behaved as a private, for-profit institution like any other private bank. The two missions were not compatible in the end, economically or politically. State banks saw Hamilton's 1st Bank of the United States, as well as the 2nd Bank of the United States, as competitors on the private side that were able to leverage their government contacts to a competitive advantage. Hence central banking as an idea was at great disadvantage for much of the "long nineteenth century" (1791–1913).

Hamilton proposed a central bank as a corporation, run by a small group of knowledgeable bankers. As a corporation it sold stock, earned profits from its operations, and distributed its earnings to shareholders—like any other corporation. A clear majority of the board would be bankers, not government-appointed representatives.

The 1913 Fed was similar to Hamilton's vision in many ways but differed significantly in one important element: It was an institution that sold stock to its member-affiliated banks. It earned profits that it distributed to its shareholders. It was structured so that local bankers assumed effective control locally, in the district, over money supply management, interest-rate setting, and securities transactions with its private bank members. A small group of

"expert" bankers were decision makers; only a token community, nonbank representatives served on the district executive committees. It thus had a kind of private bank characteristic. Where it was fundamentally different from Hamilton's vision was the Fed districts did not compete with the local private banks in pursuit of for profit projects. The 1913 Fed was no longer a direct competitor, and therefore not a threat, to the private banks. The Fed districts became institutional in their service of the private banks and a single source for stabilizing interest rates, available reserves, and served as a much-needed regional clearinghouse as well. The Fed thus offered useful services to the private banks in their regional markets, was not a competitive threat, and allowed them to effectively run the district show of the central bank with great autonomy in 1913.[1] This integration of interests between the state banks and the new central bank structure was the most important element for getting state and local banking buy in and support for the 1913 Federal Reserve Act.

Hamilton envisioned the central bank as a steady source of obtaining funds for the federal government, especially during emergencies, but as a general source as well. The central bank was essential, as he viewed it in his 3rd Report on Manufacturers to Congress, also for financing the development of manufacturing and industrializing of America—although his 3rd Report was rejected by Congress. A central bank for assisting commerce and agricultural trade was one thing; for expanding manufacturing at the expense of the former was another. That clashed too directly with the Jeffersonian-Madisonian vision.

The 1913 Fed, of course, served as a highly successful central bank in fulfilling the central banking function of helping raise funds for the government. The role of the Fed in wartime, 1916–1918, was evidence to that effect. The Fed played a critical role in expanding what were called "Liberty Bonds" sold by the Treasury and US government during the war. Without the Fed's role, increased taxation alone could not have financed the US war effort. So the 1913 Fed and Hamilton's vision were closely integrated with regard to this particular central banking function.

It is difficult to compare Hamilton's vision with the Fed in the matter of an interbank clearinghouse function. In Hamilton's time, there was just a handful of major banks, located in the big coastal cities, especially the corridor from Boston to New York, Philadelphia, and Baltimore. The clearinghouse function between them was not complex. By the twentieth century it was very complex and critical to stabilizing the periodic financial panics—as 1907 showed. The 1913 Fed provided a great advancement in terms of extending this function nationally. Not much similarity with Hamilton here; but a national clearinghouse was not envisioned as a critical central bank function by Hamilton.

By serving as the fiscal agent, the 1913 Fed was closely similar to Hamilton's vision. Indeed, as noted previously, the New York Fed eventually assumed that function directly from the Treasury.

Did Hamilton's vision coincide with the Fed with regard to the central banking function of money supply management? Hamilton foresaw the need for a dominant, if not single, currency. Without it, the countless forms of state and community bank paper issues and currencies all but ensured the impossibility of stabilizing the national money supply. Here, the 1913 Fed perhaps even went beyond Hamilton's vision: A Fed paper currency—the Federal Reserve Note—was created and paper currency issues by banks were now legally prohibited. The Fed's monopoly over a single paper currency was not far from Hamilton's vision of a central bank currency that was dominant among other currencies.

Hamilton did not see how money supply management involving specie could be controlled. And in any event, he downplayed the potential problems associated with large, destabilizing specie money flows to and from London. Hamilton was perhaps influenced by David Hume (whom he had read in great detail) in this regard, including Hume's view (the specie-flow mechanism) that maintained that specie flows would eventually balance themselves out in the longer run. But the problem was the short run. In practice, not theory, cross-Atlantic gold flows generated significant economic instability—whether for America or for Britain, depending on the direction of the flow. So Hamilton's view was money supply management of specie money was not even a problem. He thought it would mostly flow into the US economy, not out—that is, US interest rates would almost always be higher than Britain's, thus ensuring the gold inflow to the United States. He saw gold outflow not occurring very often, and therefore not a problem, Hamilton was also similarly unconcerned that excessive gold inflow might create excess inflation in the United States.

The 1913 Fed improved control of money supply management—with the single currency, centralization of reserve requirement decisions, and concentrating Fed bond transactions in the New York Fed district. But the Fed soon discovered that adjusting the reserve requirement ratio was an imperfect "blunt" tool for regulating money supply. The discount rate quickly proved to have little effect in that regard as well. The existing tools were still insufficient; better tools for money supply management would need to be developed at some point. But not yet. Concerning managing money supply involving specie money, whereas Hamilton essentially ignored problems of cross-border specie flow, the Fed was confronted with its destabilizing effects in a period of the decline of the gold standard. Fed efforts to adhere to that standard would increasingly conflict, throughout the 1920s decade, with its other central banking functions of money supply management and interest-rate setting. Hamilton may not have thought regulating specie money was

necessary and didn't advocate it as part of his central bank vision; but the Fed knew and experienced it as a problem and chose to address it—at the expense of the US domestic economy.

Hamilton's vision hardly considered the importance of the central banking functions of bank supervision and lender of last resort. For the central bank (or the Treasury) in his time to try to assume supervision over the private banks, individually or as a system, would have quickly crashed on the rock of widely held dominant view of states' rights. A central bank assuming bank supervision was a nonstarter with the Congress in Hamilton's time, as was the central banking function of being a lender of last resort. To envision and advocate a process whereby the central bank might bail out the private banks, that is, serve the function of a lender of last resort, was a view with very little public or political support as well. "What! Bail out the bankers who cause the crisis!," was the public attitude. The prevailing view was the market should, and would, regulate banks that overextended themselves. It was not the role of the government or even a partial public bank to rescue private banks.

Of course, by 1913 the experience of banking in the United States clearly revealed that the supervision function could not be left to market forces. Excessive speculative, high-risk, short-term debt-financed lending by banks has consequences for all the economy, not just the banks. That kind of bank behavior inevitably led to financial bubbles, panics and crashes that spilled over to the real economy, driving a major real economic contraction. In perhaps the spirit of Hamilton, however, the 1913 Fed ended up only dabbling in bank supervision. Much of economic and public opinion still believed it best that market forces regulate risky bank behavior. Banks were still subject to state regulation, after all. It was the states' responsibility to supervise state banks. And other government agencies regulated elements of the system already, like the Office of Comptroller's regulation of the currency. The United States had begun to construct a Byzantine-like structure of bank regulation, to which the Fed would be assigned only a small part. Given that token role, the Fed more often than not simply assumed a light touch at bank supervision and regulation.

So far as lender of last resort is concerned, the 1913 Fed was given limited authority, according to some interpretations of the statute. But when the test came in 1930 to exercise its authority, the Fed chose not to. Political forces in government at the time believed the depression was caused not by the excessive debt expansion fueling overextended financial speculation during the 1920s. It was caused by fiscal policies. Or by the Europeans. Or bad trade decisions. Or failure of the US government to balance its budget. Or refusal of workers to agree to wage reductions. It was not due, according to conventional political wisdom at the time, to the Fed or to monetary policy. So the Fed after 1929 never really exercised whatever authority it might have

had to function as lender of last resort. Hamilton had left it in theory to market forces to supervise and restore the banking system after crashes cleaned out the "dead wood" bad banks. So did the 1913 Fed in practice leave it to market forces from 1929 to 1933—and with disastrous consequences as those same market forces caused 17,000 banks to fail which drove the US economy ever deeper into depression in stages after a series of four consecutive banking crashes, 1930–1933.

In conclusion, in many respects the 1913 Fed was an implementation of Hamilton's vision. It was very much a Hamiltonian central bank. But that vision included two great failed central banking functions inherited from Hamilton's vision: the lack of bank supervision and lender of last resort. Hamilton's private bank central bank great weakness was its hybrid, for-profit character that made it a target of opposition by much of the rest of the banking system and its political supporters. It was perceived as leveraging its public bank access to promote its private for-profit bank objectives. The public side was insufficiently independent of the private banking side operations. Perceived as competitive, threatening, and armed with inside government connections, it would never be allowed to supervise the private banks. Nor why should it expend its own resources to bail out those same private bank competitors? The hybrid nature of Hamilton's vision of a central bank doomed it to failure.

The 1913 Fed resolved some of these contradictions. In that sense it was therefore a distinct departure from Hamilton's view. But it still failed in terms of the critical central banking functions of bank supervising and lender of last resort. The reasons were perhaps more similar than it appears to Hamilton's view that failed with regard to these two key functions as well. The 1913 Fed was—like Hamilton's bank—effectively run and managed by private bankers in the interest of private bankers as well. The structure of the 1913 Fed somewhat concealed this fact. But it was there nonetheless. The banker-run 1913 Fed did not want its central bank to regulate and supervise it. And it consistently protected the dollar and the gold standard by raising interest rates during the 1930s' depression in order to protect the value of banks', shareholders', and investors' financial assets from deflating. And when the crisis deepened after 1929 and banks began to fail in large number, the Fed hoarded its available remaining assets (like all other private banks) instead of using them to stop the growing run on the banks.

Private bankers' interests taking precedence over a public bank's central banking functions was the fundamental weakness in Hamilton's vision as it would be with the 1913 Fed during its initial two decades from 1913 to 1933.[2]

NOTES

1. Although, as noted in the preceding chapter, some of that initial autonomy would migrate to the New York Fed district.

2. For further history of the Fed, from the 1920s through 2016 under its chair, Janet Yellen, see Jack Rasmus, *Central Bankers at the End of Their Ropes?: Monetary Policy and the Coming Depression* Clarity Press, Atlanta, 2017. And for supplementary analyses of the current Powell Fed, 2016–2018, see Jack Rasmus, "Yellen's Twin Legacies: Powell's Dilemma," *Word Financial Review*, March–April 2018, pp. 29–34, and "Trump vs. the Fed," *European Financial Review*, forthcoming, March–April 2019.

Postscript

Will Central Banks Survive to Mid-Twenty-First Century?

After nine years of a radical experiment injecting tens of trillions of dollars, and dollar-equivalent, currency into their economies, the major central banks of the advanced economies—the Federal Reserve (Fed), Bank of England (BoE), European Central Bank (ECB), Bank of Japan (BoJ), and the People's Bank of China (PBOC)—appear headed toward reversing the policy of massive liquidity injection they launched in 2008.

Led by the US central bank, the Federal Reserve, central bankers have begun, or are about to begin, reducing their bloated balance sheets and raising benchmark interest rates. A fundamental shift in the global availability of credit is thus on the horizon. Whether the central banks can succeed in raising rates and reducing balance sheets without precipitating a major credit crunch—or even another historic credit crash as in 2008 that sends the global economy into another recession tailspin—is the prime question for the global economy in 2019 and beyond.[1]

Fundamental forces in recent decades associated with globalization, rapidly changing financial structures worldwide, and accelerating technological change significantly reduced central banks' ability to generate real investment and productivity gains—and therefore economic growth—after nine years of near zero and negative benchmark rates. The same changes and conditions may threaten a quicker than anticipated negative impact on investment and growth should rates rise much in the near term. In the increasingly globalized, financialized, and rapid technologically changing world of the twenty-first century, central bank interest-rate policies are becoming less effective—and with that central banks policies less relevant.

THE $25 TRILLION RADICAL EXPERIMENT

Since 2008, the major central banks have embarked on an unprecedented experiment, injecting tens of trillions of dollars of liquidity into their banking systems and economies—by means of programs of quantitative easing (QE), zero interest rates (ZIRP), and even negative rates (NIRP), among other more traditional means. The consequence has been the ballooning of their own balance sheets.

The balance sheets of the five major central banks in 2017 total conservatively $20 trillion. The Fed's contribution was $4.5 trillion. The ECB's just short of $4.9 trillion, but still rising as it continues its quantitative easing program purchasing both government and private bonds. The BoJ's is more than $5 trillion, as it has announced plans to continue its QE program beyond 2018, buying not only government and corporate bonds but also private equities and other nonbond securities. The BoE's total is heading toward $1 trillion, as it re-introduced another QE program in the wake of the Brexit vote in June 2016. And the PBOC's is estimated somewhere between $5 and $7 trillion—the result of liquidity injections supporting its state policy banks and entrusted loans to industries and local government construction projects.

Add in important "tier 2" central banks—like the Swiss National Bank, the Bank of Sweden, and central banks of India, Brazil, Russia, and others—that in recent years have also significantly increased their balance sheets, and the global balance sheet totals easily exceed the $20 trillion of the five majors.

The $20 trillion itself is actually an underestimation of cumulative liquidity injections that have occurred since 2008. Although the Fed officially ended its QE3 program at the end of 2013 when its total reached $4.5 trillion, it continued rebuying securities thereafter as some of its earlier bond purchases matured and "rolled off." The repurchases kept its balance sheet level at $4.5 trillion. Bloomberg Research has estimated the Fed has purchased more than $7 trillion since 2008 when its repurchases are considered. Similar reinvestments by the other four major central banks would likely add even more "cumulative trillions" of liquidity injections since 2008. The actual liquidity injected is therefore likely closer to $25 trillion.

Some argue the reinvestments shouldn't be counted, since the maturing of bonds represent liquidity removed from the general economy. But that view disregards any money multiplier effects on private debt and debt leveraging. Even after maturing, the bonds leave a residue of debt-generation in the economy regardless of whether the bonds are repaid. The liquidity might be removed from the economy, but its residue of debt and leverage remain.

This historically unprecedented $25 trillion global liquidity injection by central banks worldwide has occurred within the context of a simultaneous general retreat from fiscal policy as well—at least in the form of government

direct investment and spending. With the exception of China perhaps, it has meant almost total reliance in the advanced economies on central bank monetary policy. Since 2008, central bank monetary policy of massive liquidity injection, generating super-low (and even negative) interest rates, has been the "only game in town," as others have aptly described.[2] Talk of renewed government investment and spending in the form of infrastructure investment has to date been only talk. Elites and policy makers in 2008 chose central bank monetary policy as the primary, and even sole, engine of economic recovery. And it has proven an engine running on low-octane fuel and now running out of gas.

HAS THE NINE-YEAR EXPERIMENT FAILED?

In retrospect, monetary policy has not been very effective—whether considered in terms of generating real economic growth, achieving targets of price stability and employment, or even in terms of ensuring central banks' primary functions of lender of last resort, money supply management, and banking system supervision.

If measured in terms of central banks' primary functions, avowed targets, and monetary tools' effectiveness, the past nine years of "monetary policy first and foremost" (with fiscal spending frozen or contracting) may reasonably be argued to have failed. The $20 trillion central bank monetary experiment was supposed to bail out the banks, generate employment, raise goods and services prices to at least 2 percent annually, restore financial stability, and return economic growth in GDP terms to pre-2008 crisis averages. But it has done none of the above—despite the $20–$25 trillion massive liquidity injections.

That in turn raises the question: Should anyone believe central banks' new policy—that is, to sell off and reduce their balance sheets and raise interest rates—will prove any more successful?

Both mainstream and business media generally concur that central banks policies since 2008 saved the global economy from another 1930s-like global depression. But an assessment of central banks' performance in terms of their primary functions, in achieving their publicly declared targets and objectives, and in the effectiveness of their monetary policy tools suggests that the track record of central banks has been far less than successful.

LENDER OF LAST RESORT FUNCTION

Clearly some of the biggest commercial banks were rescued after 2008. The bailout was enabled by means of a combination of programs: central banks providing virtually zero interest loans and loan guarantees to banks, directly

buying bad assets like subprimes from banks and private investors at above market rates, forcing bank consolidations, suspending normal accounting rules, establishing government-run so-called bad banks to offload bad debt, and by temporary bank nationalizations. But the global banking system today is still overloaded with a mountain of nonperforming bank loans (NPLs) and other forms of private debt and remains therefore still quite fragile. Lender of last resort appears to have been successful in rescuing some large banks, but much of the rest of the banking system has been left mired in a swamp of bad debt, especially in Europe, Japan, and China.

Official data show NPLs in Europe and Japan officially at levels of $1–$2 trillion each. But much of it is concentrated dangerously in certain periphery economies and industries, which makes their NPLs potentially even more unstable. China's NPLs are estimated around $6 trillion. NPLs in India are certainly hundreds of billions of dollars and perhaps even more, and are almost certainly officially underestimated. Then there's Russia, Brazil, South Africa, and other oil and commodity producing countries, the NPLs of which—like India's—have been accelerating particularly rapidly since 2014 as a percent of GDP, according to the World Bank. Moreover, all that's just official data, which grossly underestimates true totals of bad debt still on banks' balance sheets, since many NPLs are conveniently reclassified by governments as "unrecognized stressed loans" or "restructured loans" in order to make the magnitude of the problem appear less serious.

In other words, the $25 trillion central bank liquidity experiment has left the global economy with $10 to $15 trillion in global NPLs. And that's hardly an effective lender of last resort performance, notwithstanding the bailout of the highly visible big banks like Citigroup, Bank of America, Lloyds, Royal Bank of Scotland, and others. What remains is a massive bad bank loan debt global overhang of at least $10 trillion. And when high-risk private debt in the form of corporate junk bonds, leveraged loans, equity market margin debt, household and local government debt are considered as well, "nonperforming" debt totals likely exceed $15 trillion worldwide at minimum. A truly effective lender of last resort function would have cleaned up at least some of this bad debt, but it hasn't. Beneath the appearance of a successful post-2008 lender of last resort function lies massive evidence of central banks' failure in their performance of this function.

The global economy thus remains highly fragile, despite the $25 trillion liquidity injections by central banks since 2008.[3] The global banking system is permeated with "dry rot" in many locations. If financial stability is an avowed objective of central bank policy, the magnitude of global NPLs and other forms of nonperforming private debt is ample testimony that central banks have failed the past nine years to restore stability of the financial system. Central banks have failed to implement preemptive lender of last

resort programs and have been content to respond in reactionary fashion as lender of last resort after crises have erupted.

MONEY SUPPLY MANAGEMENT FUNCTION

The great liquidity experiment is not just a phenomenon of the post-2008 period. It has been under way for decades, beginning with the collapse of the Bretton Woods international monetary system in the 1970s which gave central banks, especially the Fed, the task of stabilizing global currency exchange rates, ensuring price stability, and facilitating global trade. Neoliberal economic policies, first in the United Kingdom and the United States then later elsewhere, further encouraged and justified central bank excess liquidity policies since the 1980s. The removal of restrictions on global money capital flows in the late 1980s helped precipitate financial instability events globally in the 1990s that further encouraged central bank excesses. So did technological change in the 1990s that linked and integrated financial markets and accelerated cross-country money velocities that made banking and financial systems increasingly prone to contagion effects. As financial asset markets' bailouts grew in frequency and magnitude after 1990 in response to multiple sovereign debt crises, Asian currency instability, bursting tech bubbles, and subprime housing and derivatives credit booms, central banks provided ever more liquidity to the system. At the same time, changing global financial structures gave rise to forms of nonmoney "inside" credit, and technology increasingly spawned forms of digital money—over both of which central banks have had little influence as well. The 2008–2009 global crash thus only accelerated these developments and trends already under way for decades.

Financialization, technological change, and globalization thus have all served to reduce central banks' ability to carry out their money supply function. Moreover, central banks themselves have exacerbated the trends and loss of control by embracing policies like QE, ZIRP, and NIRP, which, in effect, have thrown more and more liquidity at crises—that is, crises that were fundamentally created by excess liquidity, runaway debt, and leveraging in the first place. The solution to the last crisis—that is, liquidity—would become the enabling cause of the next.

BANKING SUPERVISION FUNCTION

Central banks have been no more successful in performing their third major function of banking supervision. If banks were properly supervised, the current volume of NPLs would not have been allowed to grow to excessive levels. Central banks would intervene and check financial asset price bubbles

before they build and burst, threatening the entire credit system and collapsing the real economy. Limited initial efforts to expand the bank supervision role of central banks following the 2008 crash—such as Dodd-Frank legislation in the United States and the Financial Stability Authority in the United Kingdom—have been halted and are being dismantled step-by-step. In Japan, bureaucratic forces have effectively stymied more bank supervision for decades and little more was done after 2008. In Europe, supervision remains largely still with national central banks. Efforts to coordinate bank supervision across central banks globally with the Basel II and III agreements are moribund. And nowhere have effective regulatory measures been implemented to address the huge shadow banking system, rapidly expanding online banking, or the growing role of global multinational corporations' financial departments, which have been transforming large multinational nonfinancial corporations into de facto private banks as well.

Even ardent central banker, Stanley Fischer, former vice-chair of the Federal Reserve and head of its financial stability committee, has recently declared that efforts in the United States to roll back even the limited measures of Dodd-Frank to expand Fed bank supervision as "very, very dangerous."[4]

Never totally responsible for bank supervision—and only one institution among several tasked with supervising the private banks—central banks like the Fed have never been very successful performing bank supervision. And now that function is again weakening across the global economy.

THE FAILURE TO ACHIEVE 2 PERCENT PRICE STABILITY

Failing functions of lender of last resort, money supply and credit control, and banking supervision are not the only indications of central banks' failure in recent decades, and especially since 2008. No less indicative of failure has been central banks' inability to achieve their own publicly declared targets.

Failure to achieve their 2 percent price stability target has been particularly evident. Since 2008 the economies of Europe and Japan in particular have repeatedly flirted with deflation in goods and services prices. When not actually deflating, prices have either stagnated or barely rose above zero. Even the US economy, which analysts herald as performing more robustly than the others, the Fed's preferred Personal Consumption Expenditures, or PCE, core price index has consistently failed to attain the 2 percent threshold. China's prices have performed better, but that has been mostly due to periodic booms in its housing sector and its several fiscal stimulus programs that have accompanied its central bank's liquidity injections policy since 2011. Despite the $25 trillion liquidity injection, central banks have clearly failed to achieve anything near their declared 2 percent price targets.

UNEMPLOYMENT AND GDP GROWTH

While the ECB, BoE, and BoJ limit their targeting to a 2 percent price stability rule (the PBOC to 3.5 percent), the US Fed officially maintains that employment and economic growth are also official targets of central bank monetary policy.

But it has been mostly lip service. Since 2015 the Fed has touted the fact of the US economy's unemployment rate has fallen to only 4.5 percent. But 4.5 percent is not the true US unemployment rate. It is the government's official U-3 rate, which estimates only full-time, permanent employment. At least an equivalent percentage of the US labor force remains unemployed in the US economy when part-time, temp, and contract work—that is, underemployment—is considered. That's the U-6 unemployment rate which the Fed conveniently ignores. The true numbers of jobless are even higher than the U-6, when workers who never entered or dropped out of the labor force are considered; or when the millions more who chose permanent disability status in lieu of unemployment are added; or when the poorly estimated growing underground economy and undocumented immigrant labor force are considered. The true US unemployment rate remains 8 to 10 percent, as it does as well in Europe.

If central banks' $25 trillion liquidity injection are measured against restoring economic growth rates, the picture fares no better. Despite the Fed's QE, ZIRP, and related programs, the US economy has grown since 2008 at an annual rate, in GDP terms, averaging only 60 percent of its precrisis economic average. On three separate occasions since 2010 the US economy collapsed to near zero growth for one quarter. Europe's GDP performance has been even worse, experiencing a serious double-dip recession in 2011–2013, and chronic growth rates well below 1 percent for most of the period that followed. And Japan's growth has been even worse than Europe's, experiencing no less than four recessions since 2008. As of 2018, Japan is in recession once again and Europe's growth is declining toward a 1 percent level. The US growth rate of 3–3.5 percent in 2017–2018 has been clearly a temporary aberration, driven by massive tax cuts and defense spending. In 2019, the growing concensus is that the US GDP will again soon revert to its 1–1.5 percent longer-term average or worse, should a recession occur by 2019–2020. Only China has performed better, but most likely due once again to its significant fiscal stimulus program of 2008–2009 and additional mini-fiscal stimulus thereafter and not due to monetary policy. In 2012 every dollar of liquidity provided by the PBOC generated an equivalent dollar of real GDP growth; today, that ratio is four dollars necessary to generate one dollar of real growth. Like the other advanced economies, China growth is steadily slowing, and soon it will be below a 6 percent annual rate, or even as low as 5 percent.

MONETARY POLICY TOOLS' EFFECTIVENESS

After the 2008-2009 global crash, it became almost immediately evident that central banks' traditional monetary tools, like open-market operations bond buying and reserve requirement adjustments, were seriously deficient for both bailing out banks and promoting robust economic recovery. New, more radical policy tools were introduced—specifically QE, ZIRP, and then NIRP. How effective have the new tools been, one might ask.

While they reflated part of the banking system no doubt, the negative costs of the QE-ZIRP-NIRP have risen steadily since 2008. Much of the QE driven liquidity—especially direct buying of investors' subprimes by the Fed and ECB-BOJ purchases of corporate bonds and equities—has been misdirected into financial asset markets rather than real investment, redistributed to shareholders, diverted offshore, or remain hoarded on corporate balance sheets. Both real productivity and real goods and services prices have stagnated, while financial asset prices have bubbled—especially in equities, high-yield corporate bonds, and derivatives like exchange traded funds (ETFs). The nine years of near-zero interest rates, still continuing in Japan and Europe, have devastated fixed-income households' savings. Retirees' incomes in particular have stagnated and declined, while capital gains incomes of investors and speculators have accelerated. That does not portend well for sustained household consumption in the longer term.

The long-term QE-ZIRP has also been distorting various markets. Pension funds and insurance annuities still struggle to recover due to the chronic low rates of return and are poorly positioned now for the next recession and crisis. Low rates have encouraged excessive corporate bond debt issuance, which has not flowed into real investment and productivity or wage incomes. In the United States alone, corporate debt has exceeded $6 trillion in the past six years. Central banks' chronic low rates have been fueling a new "debt bomb" worldwide, not just in the advanced economies but increasingly in emerging markets as well. Not least, the low rate regime for nearly a decade has seriously neutralized interest rates as a potential central bank tool on hand when the next recession occurs within the next few years.

As the world's primary central bank, the Fed has been desperate to raise rates in order to restore a policy tool cushion before the next crisis. It has also been raising rates since 2017 to finance the US trillion dollar budget deficits due to Trump's tax cuts and higher defense spending. Central banks in Europe and Japan are waiting to follow suit, to raise their rates and sell off their balance sheets, but will not do so until the Fed does more convincingly in the coming months. Their slowing economies will also mitigate against their reversing of their QE programs on rate hikes. Due to new forces dominant in the twenty-first century, neither the Fed nor other central banks will be able

to raise rates much higher (or significantly reduce balance sheets that will have the similar effect on rate hikes).

It is this writer's view that the Fed will not be able to raise its benchmark federal funds rate above 2.50 percent, or push the longer-term ten-year Treasury bond yield (rate) above 3.25 percent, without precipitating another major credit crisis. And if the Fed cannot, the other central banks will not as well. Monetary policy may be already neutralized for the next recession and crisis.

CENTRAL BANKING'S INEVITABLE TRANSFORMATION

Whether based on assessment of central banks' primary functions, central bank targets, or effectiveness of new monetary tools, it is reasonable to argue that central banks have not been performing very well in recent decades, and especially not well in the post-2008 period. As the Fed and other central banks now consider reversing and reducing the consequence of post-2008 policies by trying to sell off balance sheets and raise rates, that major policy shift will most likely prove no more successful than policies pursued 2008–2017 and perhaps even less so.

Central banks have clearly not evolved apace with the rapid changes in globalization, financial structures, and technology. The private banking and global financial system is changing far more rapidly than central banks have been able to adjust. Being essentially national institutions, they cannot adapt fast enough to the globalization and economic and financial integration trends that are accelerating. Manipulation of national interest rates by central banks are thus becoming increasingly ineffective. Expanding, highly liquid and integrated global financial markets, proliferating new financial securities, new forms of digital money and inside credit beyond their influence, virtually unregulated (and perhaps unregulatable) global shadow banking institutions that now control more assets than commercial banks, fast-trading, dark pool investing, and coming artificial intelligence-driven passive investing—all represent significant challenges to central banks' functions, targets, and tools effectiveness. Their response has been simply to throw more money and ever more liquidity at crises as they multiply and magnify. And in the process they lay the groundwork for still more speculative debt creation and leverage, more financial asset bubbles, and more subsequent financial instability to follow.

The problem is not only technological or economic. Accompanying the changes has been the rise of a new global finance capital elite—that is, the human agency driving changes both economically and ensuring those changes are enabled politically: a couple hundred thousand super-wealthy individuals and investors who are transforming not only the global banking-financial system but who are steadily deepening their influence within the

state and governments of the advanced economies. They have been bending traditional government institutions—legislatures, executive agencies, and even courts—to their collective will. Central banks' policies and strategies are being influenced and affected no less so.

US economic policy today is increasingly determined by members of this financial elite. Despite this elite's central role in causing and precipitating the last financial crash, none have gone to jail and their representatives now sit firmly in control of US levers of economic policy. President Trump is himself a billionaire real estate speculator and member of this new finance elite, as are most of the private advisers with whom he communicates regularly and who have a swinging-door access to the White House.

The various economic developments, global system restructuring, technological changes and political system entrenchment of the new elite thus render it highly likely that central banks will perform even more poorly in the decades to come—whether that performance is measured in terms of functions, targets, tools, or ensuring financial stability. That failure will drive necessary basic changes in central banking in the coming decades. Central banks will have to undergo major structural change, develop new targets and tools, and become more directly accountable to the public interest than ever before if they are to survive by mid-century. There will always be central banking in some form. But central banks as we now know them will certainly no longer exist. Central banks will have to evolve even further from the vision and legacy initially imagined for them by Alexander Hamilton and others that followed in the Hamiltonian tradition—Warburg to Greenspan to Powell.[5]

NOTES

1. This is one of several main themes that I have addressed in my just published book, *Central Bankers at the End of Their Rope?: Monetary Policy and the Coming Depression*, Clarity Press, Atlanta, 2017.

2. See Mohamed El-Erian, *The Only Game in Town: Central Banks, Instability, and Avoiding the Next Collapse*, Random House, New York, 2016.

3. For an assessment of the "system-wide" fragility as of 2015, see Jack Rasmus, *Systemic Fragility in the Global Economy*, Clarity Press, Atlanta, 2016.

4. *Financial Times*, August 19, 2017, p. R3.

5. For my proposals for restructuring the Fed in the twenty-first century, see my concluding chapter, "Revolutionizing Central Banking in the Public Interest," in *Central Bankers at the End of Their Ropes?: Monetary Policy and the Coming Depression*, Clarity Press, Atlanta, 2017, pp. 323–330.

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About the Author

Dr. Jack Rasmus is the author of several books on the US and global economies, including, *Central Bankers at the End of Their Rope?*, *Looting Greece*, *Systemic Fragility in the Global Economy*, *Epic Recession: Prelude to Global Depression*, and *Obama's Economy: Recovery for the Few*.

His forthcoming books include *The Scourge of Neoliberalism: US Economic Policy from Reagan to Trump*, 2019.

Dr. Rasmus currently teaches economics at St. Marys College in Moraga, California, and publishes on subjects of global financial instability, US fiscal and monetary policy, financial business cycles, history of economic thought, and US economic history. He is a graduate of the University of California, Berkeley (BA Economics) and University of Toronto, Canada (MA, PhD Political Economy).

Prior to his academic career and publishing, Dr. Rasmus was formerly an economist, vice president, and strategic market analyst for various global tech (Siemens, Nortel), market research (Gartner, Dataquest), and silicon valley technology start-up companies (Goremote, Sphere Communications) for twenty years.

Dr. Rasmus may be contacted at his email: drjackrasmus@gmail.com or jjr2@stmarys-ca.edu, his business mobile 925-209-3933, or home office line at 925-999-9789.