working paper

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The National Banking System: A Brief History

by Bruce Champ

FEDERAL RESERVE BANK OF CLEVELAND

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Working Paper 07-23 December 2007

The National Banking System: A Brief History

by Bruce Champ

During the period of the National Banking System (1863–1913), national banks could issue bank notes backed by holdings of eligible U.S. government securities. This paper presents an overview of the legal and financial history of this period. It begins with the reasons the National Banking System was created. It also examines the rules of operation for national banks as established by the National Banking Act and its subsequent revisions. Furthermore, the paper serves as a brief financial history of the period, examining the various forces that shaped the environment in which national banks operated.

This paper represents a preliminary chapter from a forthcoming monograph on the period of the National Banking System. Other chapters of the monograph will appear in the Federal Reserve Bank of Cleveland's working paper series.

Key words: bank notes, National Banking System, national banks, banking panics.

JEL codes: E42, E43, G21, N21

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1 Introduction

The founding of the National Banking System in 1863 represented an important milestone in the development of the financial infrastructure of the United States economy. Although many of the features of this system were unique to its era, other aspects of the system remain in effect to this day.

This paper provides a summary of the important legislation that impacted national banks during the national banking era.[1] The emphasis will be on those aspects of the legislation that had important influence on national bank behavior. The paper also discusses the financial history of the period as it relates to national bank operations.

2 Reasons for Establishing the National Banking System

Before embarking on a detailed history of the period of the National Banking System, a summary of the main reasons for the passage of the National Banking Acts should prove useful. Briefly, the main reasons for the establishment of the National Banking System were:

- The creation of a uniform currency and
- The need for an effective means of Civil War financing.

The need for a uniform currency, one that would have an identical nominal value regardless of the geographic location in which it was used in the United States, was

[1] For those interested in the precise details of the legislation governing national bank operations, see Huntington and Mawhinney (1910). This authoritative source contains the exact text of the laws governing banking, coinage, and finance that were passed by the U.S. Congress from 1792 to the time of its publication. The reader is also referred to Friedman and Schwartz (1963) for their excellent general history of the national banking era and other periods in U.S. monetary history. Additional references can be found at the end of the paper.

Appendix A presents a concise summary of the legislation related to national bank operations.

well recognized practically from the country's inception. Its attainment had been an elusive one up to the Civil War years. Prior to the formation of the National Banking System, the various currencies issued by state and private banks typically did not circulate at par with one another.

Because of the difficulties this imposed on interregional trade, early leaders of the country emphasized the need for a uniform currency. For example, James Madison referred to the lack of a uniform currency in the period between the First Bank of the United States (1791–1811) and the Second Bank of the United States (1816–1836).

> It is, however, essential to every modification of the finances that the benefits of a uniform national currency should be restored to the community." (James Madison, 1815)

Secretary of the Treasury William Crawford emphasized the negative impact a nonuniform currency had on interregional trade.

> In referring to the causes which had the most decided influence in calling the United States Bank into existence, the inconveniences resulting to the community from the inequality in the rate of exchange between the different sections of the Union stand eminently prominent. (Secretary of the Treasury William Crawford, 1817, p. 540)

The National Banking System did provide for a uniform currency. National banks were required by law to accept the notes of other national banks at par. This was facilitated by a nationwide system of redemption centers beginning in 1874.

3 The Beginning of the Civil War

With the outbreak of war in April 1861, the common belief was that the Civil War would be of short duration. In the North, it was felt that the superior industrial strength of the North would lead to a quick victory over the predominantly agricultural South. The South believed that northerners would not have the fortitude to fight a war.

However, these beliefs proved not to be true, and expenditures related to the war effort quickly mounted. As seen in Table 1, the U.S. government budget quickly swung into a large deficit position. To finance escalating wartime expenditures, a

Table 1: U.S. Government Budget and Debt(millions of dollars)

Year	Surplus (+) or Deficit (−)	Public Debt
1855	5.6	35.6
1856	4.5	32.0
1857	1.2	28.7
1858	−27.5	44.9
1859	−15.6	58.5
1860	−7.1	64.8
1861	−25.0	90.6
1862	−422.8	524.2
1863	−602.0	1,119.8
1864	−600.7	1,815.8
1865	−963.8	2,677.9
1866	37.2	2,755.8

Source: Historical Statistics of the United States, Volume 5, Table Ea584–587.

special session of Congress passed the Act of July 17, 1861. This act authorized the issuance of $250 million in either 6% 20-year bonds, 7.30% 3-year Treasury notes, 3.65% one-year notes, or noninterest-bearing notes redeemable on demand. Table 1 also shows the dramatic increase in government debt during the Civil War.

In December 1861, all banks and the government suspended specie payment, an action which was looked upon as natural preparation for war in a country with a gold standard as the monetary regime. Specie payments by the U.S. government would not resume until 1879.

3.1 Wartime financing and the Legal Tender Acts

As the war continued and escalated during 1861 and 1862, the need for increased funds prompted passage of the Legal Tender Act of February 25, 1862. This act provided for the issuance of $150 million in U.S. notes, dubbed "greenbacks," which were deemed "lawful money" by the establishing act.[2] The lawful money feature implied that these notes were receivable at par for all debts to the government.

Legal tender notes were also convertible into 6% 5-20-year bonds. In this act was a provision for the reissuance of legal tender notes by the Treasury upon redemption as well as for the outright issuance of $500 million of the 6% 5-20 bonds.

As with the Act of 1861, the Legal Tender Act appears to have been considered as a temporary measure, which was to serve solely as a means of financing the Civil War. As Secretary of the Treasury Hugh McCullough wrote in December 1865, "the present legal-tender acts...ought not to remain in force one day longer than shall be necessary to enable the people to prepare for a return to the Constitutional Currency [metallic coin]."[3]

4 The National Banking Acts of 1863 and 1864

The original National Banking Act was passed on February 25, 1863. This law was found to contain many defects and was later amended in 1864. In a somewhat feeble attempt to force the replacement of state bank notes with national bank notes and to encourage the conversion of state banks to national banks, the 1863 law imposed a two percent tax on state notes. In 1863, $238.7 million in state bank notes were outstanding. This two percent tax was a factor in reducing this amount to $179.2

[2]This nickname "greenback" is attributable to the obverse of the legal tender notes, which was printed in the green color familiar to all who have used U.S. currency to this day. The green ink was introduced as an anti-counterfeiting device.

[3]*Annual Report* of the Secretary of the Treasury (1865, p. 4).

million a year later. The two percent tax proved insufficient to force the conversion of state banks to national bank status.

The amended version of the National Banking Act became law on June 3, 1864. This version, although amended frequently, outlined the general environment in which national banks operated. For this reason, a detailed description of the National Banking Act of 1864 should prove fruitful.[4]

4.1 Capital requirements

Under the National Banking Act, any number of persons greater than or equal to five could form a "national banking association." Each banking association was subject to minimum capital requirements dependent on the population of the locale in which the bank was to be situated. Table 2 details the minimum capital requirements imposed by the original act.[5] One-half of the capital requirement was to be paid in cash

Table 2: Minimum Capital Requirements by Location

Population of Location	Minimum Capital ($)
$< 6,000$	50,000
6,000–49,999	100,000
$> 50,000$	200,000

before commencing business (so-called "paid-in capital"), and the rest could be paid in monthly installments.

[4]See Appendix A at the end of this paper for a concise summary of the restrictions imposed on national banks.

[5]The Act of March 14, 1900, allowed the establishment of national banks with minimum capital requirements of $25,000 in locales with populations less than 3,000.

4.2 Note issuance

After satisfying capital requirements, a bank could then issue circulation according to the following rules. Banks were required to deposit with the U.S. Treasury bonds of certain classes to serve as collateral for note issuance. The qualifying bonds were United States government registered bonds bearing interest in coupons of 5% or more and were to be deposited to the amount of at least one-third of its capital (not less than $30,000).[6] This bond deposit would then serve as backing for bank notes which could be issued up to an amount of 90% of the market value of the bonds deposited (not to exceed 90% of par), but not to exceed the bank's capital.[7] The 90% value was changed to 100% in 1900.

Initially, national bank notes could be issued in denominations of one to one thousand dollars.[8] However, only one-sixth of the bank notes outstanding could be in denominations of less than five dollars; after the resumption of specie payments only denominations greater than or equal to five dollars were to be allowed.[9] National bank notes were redeemable in lawful money and were receivable for all public debts except the payment of customs duties. In addition, the U.S. government could use national bank notes for all payments except for interest on the public debt and the redemption of U.S. notes. National banks were to receive each other's notes at par

[6]The Act of July 12, 1870, explicitly eliminated the requirement that the bonds bear interest of 5% or more. After that date, bonds deposited with the Treasury could be "of any description of bonds of the U.S. bearing interest in cash." The bonds still had to be registered bonds, but coupon bonds could be converted to registered bonds at any point in time.

[7]Since eligible bonds typically displayed market prices in excess of par during the period, the par valuation constraint was normally binding.

[8]More specifically, national bank notes originally could be issued in denominations of $1, $2, $5, $10, $20, $50, $100, $500, and $1,000.

[9]Although it was originally expected that specie payments would resume shortly after the conclusion of the Civil War, it took some time to achieve this goal. Specie payments resumed in 1879. The original act undoubtedly allowed the issuance of national bank notes in one- and two-dollar denominations due to the disappearance of small-denomination coin during the Civil War. Small-denomination national bank notes were slowly taken out of circulation beginning in 1879. See Section 6 for more.

but were not required to pay out notes of banks that failed to redeem their own notes on demand.

Initially, the volume of national bank notes was limited to $300 million. Note issuance was apportioned to the states according to population, bank capital, resources, and other factors.[10]

4.3 Reserve requirements

National banks had to hold reserves against their deposits and, originally, against their circulation.[11] The National Banking Act organized the reserve system into three distinct tiers. The top tier consisted of banks located in central reserve cities. New York City was the only central reserve city specified in the original act. Chicago and St. Louis became central reserve cities in 1887. The middle tier of banks were deemed reserve city banks. Eighteen reserve cities were established by the original act.[12] The number of reserve cities increased over time to a total of 47 by the end of the period.[13] The bottom tier consisted of the remaining banks, called country banks.

Reserve requirements depended on the tier in which the bank resided. Central

[10]Half of the circulation was to be apportioned according to population; the remainder according to existing bank capital, resources, and "business" of each state. The apportionment of circulation was undoubtedly a concession to those outside the financial centers. Many acts of this period placed checks on the powers given to New York financial establishments.

[11]The reserve requirement on note issue was eliminated by the Act of June 20, 1874, which established the five percent redemption fund. See Section 5.3 for more detail on the five percent redemption fund.

[12]The original reserve cities were Saint Louis, Louisville, Chicago, Detroit, Milwaukee, New Orleans, Cincinnati, Cleveland, Pittsburgh, Baltimore, Philadelphia, Boston, Albany, Leavenworth, San Francisco, Washington City (present day Washington, DC). The 1864 act also specified that Charleston and Richmond "may be added to the list of [reserve] cities... whenever, in the opinion of the Comptroller of the Currency, the condition of the Southern States will warrant it."

[13]After 1887, a city of a certain population became eligible to become a central reserve city or reserve city. Designation as a central reserve city or as a reserve city required approval by 3/4 of the national banks operating in the city and by the Comptroller of the Currency. Only cities with a population of 200,000 were eligible to become central reserve cities. For reserve cities, the minimum population was 50,000.

reserve city banks and reserve city banks were required to hold 25% reserves against deposits. Reserve city banks could hold half of their reserves as deposits in a central reserve city bank. Reserve requirements for country banks were 15% of deposits. Country banks could hold three-fifths of their reserves as deposits in reserve city banks or central reserve city banks.

The redemption of national bank notes was to take place at designated reserve agencies.[14] In addition, certain banks were designated as depositories of public money. Such banks were required to hold U.S. government bonds as "satisfactory security" for governmental deposits.

The structure of reserve requirements came under criticism during the period and was viewed by many as one of the primary defects of the National Banking System. This view, most clearly expressed by Sprague (1910), focused on the "pyramiding of reserves" that this structure allowed and promoted. It was common for banks in reserve and central reserve cities to pay 2% interest on bankers' balances, the deposits of other banks. Hence, a significant fraction of reserves tended to accumulate in banks located in the reserve and central reserve cities, with a large proportion of bankers' balances concentrating in New York City where those deposits were often lent in the form of call loans. In Sprague's view, this placed the reserve city banks and the entire system in a precarious situation. Sprague stated,

> It is clear, then, that with this situation in New York an emergency would cause serious disturbance if it should lead to the withdrawal of any considerable amount by the outside banks [reserve and country banks]. . . . Every year furnished ample evidence that the outside banks had a strong preference for reducing their balances with agents rather than their own cash reserves when their depositors resorted to them for even very moderate supplies of money. (Sprague 1910, pp. 18–19)

[14]A more formal redemption system was established in 1874.

4.4 Taxes on national banks

An annual tax of 1% (levied semianually) was imposed on national bank note circulation. In addition, there was a tax of 0.5% on capital and deposits. It is important to note that the tax on notes only applied to notes outside the bank's vault. Idle notes held as inventory in a bank's vault were not subject to taxation.

5 The Early Years (1864–1881)

By the end of 1864, 638 national banks had been chartered with total capital exceeding $135 million. Circulation of national bank notes was $67 million. However, state bank notes still circulated in large numbers despite the existence of the two percent tax on their circulation; and, apparently, state banks had no trouble redeeming their notes in greenbacks. This dual system of coexistent state and national bank notes was deemed to be undesirable—a major reason for enacting the National Banking Act was to provide a uniform currency. Consequently, on March 3, 1865, a 10% tax on state bank notes was imposed. This tax quickly led to the disappearance of the state bank note. In 1865 circulation of state notes stood at $143 million. By 1866 this number was $20 million and by 1867, $4 million. The Act of March 3, 1865, also set limits on each national bank's circulation as a percentage of its paid-in capital. Table 3 details the limits imposed an a circulation by a bank's level of paid-in capital.

Concern began to develop throughout 1866 regarding legal tender notes. These notes were interest-bearing and national banks held large quantities of them to satisfy reserve requirements. These legal tender notes matured in 1867 and fears arose that their retirement could lead to a strong contraction of the currency. Therefore, on March 2, 1867, an act was passed by Congress authorizing the issuance of $50 million

Table 3: Limits on Notes Issued as a Percent of Paid-in Capital

Paid-in Capital	Notes Issued as a Percent of Paid-in Capital
$< 500{,}000$	Up to 90%
500,000–999,999	Up to 80%
1,000,000–2,999,999	Up to 75%
$\geq 3{,}000{,}000$	Up to 60%

in 3% temporary loan certificates. These certificates were payable on demand and served as legal reserves for national banks. The authorization was extended by an additional $25 million by the Act of July 25, 1868. Also, in February of 1868, Congress suspended the retirement of greenbacks, a process which had been transpiring since late 1865; the quantity was then fixed at $356 million. Many of these actions during 1867 and 1868 were to facilitate the move toward resumption of specie payment.

By 1868, national bank notes in circulation amounted to over $290 million, a figure which was approaching the $300 million limit established by the original National Banking Act. Concern developed over the consequences of reaching this fixed upper bound. As a temporary measure, on February 10, 1869, an act was passed which allowed no new national banks to be formed unless currently existing banks failed.

However, outcries over an "inelasticity" of the currency still were heard, and, in response, the Act of July 12, 1870, was enacted.This act increased the maximum circulation of national bank notes by $54 million, to $354 million. As noted above, the National Banking Act provided for apportionment of national bank note circulation between states. The Act of July 12, 1870, also provided for a reapportionment of circulation, removing bank notes from states with more than their share and reassigning this circulation to states with less than their share. Eastern and Middle states were

declared to have an excess of $80 million and Southern states were deficient by some $57 million. In addition, the act provided for the issuance of gold notes.[15]

5.1 The Crime of '73

The Act of February 12, 1873, discontinued coinage of the standard silver dollar. This act eventually would be popularly referred to as the "Crime of '73."[16] Except for a minor amount of subsidiary coin, silver had not been in circulation since 1836 due to the fact that the market price of silver exceeded its mint price since that year. Hence, on the surface, the passage of this act seemed innocuous and, in fact, was not strongly debated in Congress.[17] It was not until after its enactment that the act became a "crime."

Shortly after the Act of 1873's passage came significant finds of silver in the Comstock Lode of Nevada. The market price of silver began to fall, substanitally enough that resumption of silver coinage looked like a good idea to silver producers and the Act of 1873 looked more and more like a "crime" to them. Silver proponents lobbied strongly for the free coinage of silver at the 1836 mint price. This began the period of silver agitation in the United States. Silver agitation would continue

[15]It is also interesting to note other measures that were introduced but defeated during the 1870 Congressional session. Among the proposals defeated during the debate on the Act of July 12, 1870, were to:

1. repeal the 10% tax on state bank notes,
2. fix maximum discount rates at 7%,
3. prohibit payment of interest on deposits,
4. remove interest payments on bonds while on deposit with the Treasury as backing for bank notes, and
5. substitute U.S. notes for national bank notes.

These proposals illustrate the wide variety of sentiments concerning banking prevalent during the late 1800s.

[16]A fascinating discussion of the Crime of '73 and the debate over silver appears in Friedman (1992, Chapter 3).

[17]The act passed by votes of 110 to 13 in the U.S. House of Representatives and 36 to 14 in the U.S. Senate.

through the mid-1890s. During the late 1870s silver proponents began to have some successes, beginning with the Bland-Allison Act in 1878, discussed in Section 6.

5.2 The crisis of 1873

National bank note circulation continued to climb from nearly $292 million in 1869 to almost $339 million in 1873. However, in this period, the nation encountered its first financial crisis under the National Banking System. These banking crises were not a new phenomenon for the United States—banking crises had occurred during the state banking era as recently as 1837 and 1857. Much of the subsequent discussion of the crisis of 1873 and the crises that followed during 1893 and 1907 is due to Sprague (1910).

As was typical during the early fall months, September 1872 saw heavy withdrawals of currency for crop-moving purposes. Banks responded in a typical manner by contracting loans. However, during 1872, these currency withdrawals appeared more severe than in previous years. By the end of September, the U.S. government entered the picture in an attempt to remedy this pressure by selling gold and buying bonds ($5 million of each). Apparently, this did temporarily relieve the situation.

However, during March and April of 1873, interior banks withdrew funds from banks in the East, primarily those in New York City. This action also was typical year-to-year and was associated with the spring planting season. However, it was the large magnitudes of 1873 that were unusual. This precipitated a large contraction of loans by New York City banks. Toward the end of April currency flowed back eastward, somewhat relieving the situation. The true crisis began in September 1873, beginning with the failures of numerous brokerage firms. This resulted in a closing of the stock exchange for a period of ten days. Specie reserves of national banks fell "by $14 million or 50% in four weeks, and deposits declined by $50 million, or 28%,

in the same period", according to Timberlake (1978).[18]

Banks began at this time to issue clearinghouse loan certificates, devices to settle interbank balances. These certificates had first been used during the crisis of 1857. This action eased the situation by making the reserves of all banks available to any threatened bank. As a further measure, the U.S. government reissued $26 million in greenbacks. These combined actions helped the National Banking System survive its first crisis.

5.3 The five percent bank note redemption fund

In 1874, a more formal system was put in place to facilitate the redemption of national bank notes. The Act of June 20, 1874, stipulated that in lieu of the required reserve of lawful money for the redemption of national bank notes, lawful money to the extent of five percent of bank notes outstanding was to be deposited with the Treasury. The five percent fund counted to fulfilling the reserve requirement on deposits. The act abolished reserve requirements on bank note circulation.

With passage of this law, redemption of national bank notes would be through the U.S. Treasury instead of through reserve agents. Banks also could deposit with the Treasury lawful money for the reduction or retirement of their outstanding bank notes and receive in return the bonds which were held as security.[19] Included in this act was a $382 million limit on U.S. notes (greenbacks) and a further reapportionment of national bank notes among states. Also, the costs of redeeming bank notes were now to be borne by the national banks. A free banking amendment was defeated during the debate of this bill.

[18]See Timberlake (1978, p. 105).

[19]Before passage of the Act of June 20, 1874, national banks were required to notify the Treasury of an intent to retire currency and quantify the amount of the reduction. The banks did not receive the bonds which served as backing until the Treasury received the specified number of bank notes to be retired.

5.4 Repeal of limits on national bank notes outstanding

During 1874, concern remained regarding the ability of banks to expand circulation. National bank notes were limited to a total circulation of $354 million by the Act of 1870, and in 1874 the outstanding circulation stood at $340 million. Partially in response to this, the Specie Resumption Law was passed on January 14, 1875. This act repealed all limits on the volume of national bank notes. This law also explicitly eliminated the continual problem of bank note reapportionment.

The act further provided for the retirement of legal tender notes to an amount of 80% of new national bank notes issued until the quantity of greenbacks reached $300 million. At the time of the act's passage, over $350 million in greenbacks were in circulation. Specie payment on legal tender notes in excess of the $300 million was resumed and beginning on January 1, 1879, redemption in coin would resume on all U.S. legal tender notes.[20] The act also authorized the formation of a gold reserve established through the sale of bonds and use of surplus revenues by the Treasury.

5.5 Bland-Allison Act of 1878

Few major laws concerning banking were passed during the next few years through 1877. National bank note circulation fluctuated between $320 and $350 million during the period from 1875 through 1878. February 1878 saw passage of the Bland-Allison Act (also referred to as the Silver Purchase and Coinage Act) which stipulated that the Treasury would purchase between two and four million dollars worth of silver per month. This resulted from intense political pressures for the use of silver. Silver prices had fallen due to major finds in Nevada and reduced demands. Free silver forces were nonetheless unhappy with the law since it did not allow for unlimited coinage. By

[20]For an excellent description of the process of specie resumption, see Timberlake (1978, pp. 112–113).

1881, \$29.3 million in silver dollars were in circulation.

The Bland-Allison Act also stipulated that a holder of silver coin could deposit their holdings with the U.S. Treasury and receive silver certificates in denominations as low as \$10.[21] Lower-denomination silver certificates were issued beginning in 1886.

Silver dollars were deemed legal tender, but silver certificates were not. Because of this, questions remained as to whether silver certificates qualified as "lawful money." Lawful money was construed to be money accepted by the federal government in payment of taxes. Classification of a form of money as lawful money was important for national banks because only lawful money holdings satisfied legal reserve requirements and the five percent redemption fund established in 1874 (see Section 5.3). During 1879, extensive debates evolved as to what exactly constituted lawful money. On one side of the debate were those who contended that lawful money consisted solely of metal coins and, on the other side, legal tender notes (greenbacks) and metal coins. The presence of silver certificates further complicated this issue, and its lawful money status was contested for many years. Its status eventually was clarified by the Act of July 12, 1882.

In May of 1878, the further retirement of greenbacks was prohibited, with their quantity then fixed at \$346.7 million. This posted another victory for the pro-greenback forces in their seesaw battle with their opponents. At this time there was strong sentiment against national banks, and this act as well as the Bland-Allison Act could be seen as means to inhibit national bank note issuance. In fact, in 1878, a bill was introduced in Congress that would have totally replaced national bank note circulation by greenbacks.

In January 1879, the exchange at par of 4% bonds for the 6% 5-20's began, and in

[21] The Bland-Allison Act allowed silver certificates in denominations of \$10, \$20, \$50, \$100, \$500, and \$1,000.

February 1879, the Treasury began to issue, in exchange for lawful money, certificates of deposit bearing interest at 4%. These certificates were convertible at any time into 4% bonds. During the summer of 1881, $538 million of 5 and 6% bonds were extended at a 3.5% coupon rate, redeemable "at the pleasure of the government." The 3.5% bonds were commonly held as backing for national bank notes.

6 Extension of the National Bank Charters

In a move to extend the charter of existing national banks for an additional twenty years, the Act of July 12, 1882, was passed. This act also limited the number of national bank notes which could be retired to three million dollars per month, except when particular classes of bonds which were held as security for circulation were called by the Treasury. Further, a national bank that retired any portion of its circulation could not then increase its circulation for a period of six months. The total amount of notes issued by any single bank as a percent of its paid-in capital stock was lowered from 100% to 90%. In addition, the act authorized the exchange of an equal amount of 3% bonds for outstanding 3.5% bonds. These new bonds were also callable on demand by the government.

The Act of July 12, 1882, also changed the denominations of national bank notes. The original National Banking Acts of 1863 and 1864 permitted the issuance of national bank notes in denominations of $1, $2, $5, $10, $20, $50, $100, $500, and $1,000. However, only one-sixth of the aggregate issuance could be in one- and two-dollar denominations.

Beginning with the resumption of specie payments in 1879, national banks were forbidden from issuing new notes in denominations of less than $5. However, significant amounts of one- and two-dollar notes remained in circulation. To eliminate

this low-denomination circulation, the Act of July 12, 1882, required all national bank notes to go through the redemption process through the U.S. Treasury. As the Treasury received the old notes, they were replaced with notes of a new design. All ones and twos were destroyed during the redemption process. This action nearly eliminated the small-denomination national bank notes within a few years and only denominations of five dollars and more remained. At that time, a five-dollar note was roughly equivalent to a week's wages for a laborer.[22]

The Act of July 12, 1882, also clarified the lawful money status of silver certificates. The Comptroller of the Currency in his annual report of 1882 stated, "silver certificates... are authorized to be counted as part of the lawful reserves of national banks."[23]

6.1 The emergence of government surpluses

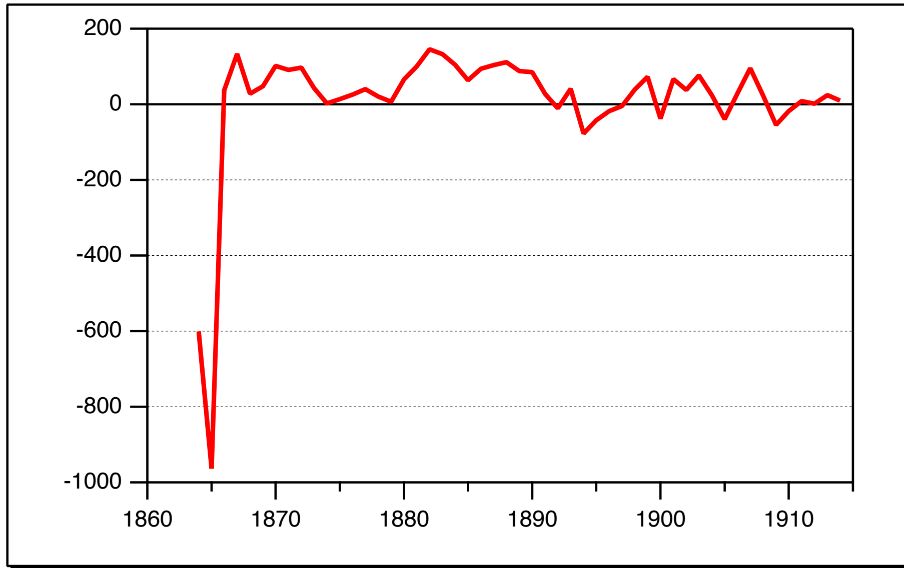
Earlier in the period of the National Banking System, the U.S. government found itself in a deficit budgetary position mainly due to the Civil War. Figure 1 illustrates the budgetary position of the U.S. government from 1864 to 1914. During the early 1880s surpluses began to appear and the outstanding government debt was being retired. In that this debt provided backing for national bank notes, concern developed. In fact, Treasury Secretary Chase stated

> If the public debt is to be paid hereafter as rapidly as during the past three years, all of the interest-bearing bonds will soon be surrendered and canceled, and there is danger that the bank circulation will be so rapidly retired as to cause a contraction of the currency.... (*Annual Report* of the Secretary of the Treasury, 1882, p. 40)

[22]See Series D 735–738 in U.S. Bureau of the Census. 1975. *Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition*, Part 1, Washington, D.C.

[23]Report of the Comptroller of the Currency (1882, p. 44.)

Figure 1: U.S. Government Budget, 1864–1914 (millions of dollars)



Source: Annual Report of the Secretary of the Treasury (various issues)

6.2 The crisis of 1884

In May of 1884, a minor crisis hit the financial community. There were numerous reports of suspensions of payment, among those being suspensions by two large banks. The crisis was attributed to undue expansion of loans induced by speculation in securities. Banks issued clearinghouse loan certificates to settle debit balances between banks, an action which, as in 1873, eased the situation.

Relatively few changes or major disturbances occurred in the period from 1885-1889. During this period, national bank note circulation fell year to year until in 1889 it was $207.2 million. Friedman and Schwartz attribute this to the "use of the surplus to retire the debt," as noted above.[24]

[24]Friedman and Schwartz (1963, p. 132)

6.3 Low-denomination silver certificates authorized

Recall that low-denomination national bank notes were practically eliminated from circulation by 1882. Four years later, Congress authorized the issuance of low-denomination silver certificates. The Act of August 4, 1886, permitted the U.S. Treasury to issue silver certificates in denominations of $1, $2, and $5, in addition to the higher denomination silver certificates authorized by the Bland-Allison Act of 1878.

6.4 Sherman Silver Purchase Act of 1890

Silver agitation continued to be a potent political force as the United States entered the 1890s. Silver proponents argued for an increase in the rate of silver purchases. With the entry of several key western states into the Union during 1889 and 1890, silver advocates had increased political clout. In a political compromise, the Sherman Silver Purchase Act of 1890 was passed by Congress. In exchange for Republican support of the purchase act, Democrats casted votes for the protectionist McKinley tariff.

The Sherman Silver Purchase Act mandated the purchase of 4.5 million ounces of silver per month at its market price. Effectively, this act more than doubled the rate of silver purchases by the Treasury. The amount of silver purchases authorized by the Sherman Silver Purchase Act represented nearly the monthly production of the silver mines of the United States. The silver bullion was to be paid for with U.S. Treasury notes (commonly called the Treasury notes of 1890) in denominations from one dollar to one thousand dollars. These Treasury notes were redeemable in gold or silver coin and could be reissued. They were also deemed legal tender as well as lawful money and therefore satisfied reserve requirements for national bank notes.

6.5 The panic of 1893

During 1891 and 1892, two major sources of uncertainty plagued the financial community. Gold had been flowing out of the Treasury and out of the country, and gold reserves were falling dangerously low. In fact, by 1893, gold reserves fell below $100 million, a situation which made the redemption of legal tender notes increasingly difficult. The public becqme apprehensive as to whether the gold standard could be maintained. Also, during this period, serious attempts were made in Congress to restore state bank notes, actions which added further uncertainty, especially for national banks.

The year 1893 also found the banking system experiencing another financial crisis. Sprague (1910), in his authoritative analysis of banking panics during the national banking era, identifies three stages of the crisis. In the first stage, the disturbance was largely confined to New York City and was marked by declining stock market prices and a contraction of loans. The loan contraction generally improved the position of most New York banks. However, in the second stage, reserves of New York banks fell by $40 million, mainly due to withdrawal of funds by depositors in the West and South. Some New York banks had reserves fall below the legal requirement on deposits. In response, about $100 million in clearinghouse loan certificates were issued. In the third stage, beginning with banks located in New York, banks across the country partially suspended payment. Sprague writes, "As soon as all banks made use of that medium [clearinghouse loan certificates], the suspension of the banks which had large numbers of correspondents became inevitable."[25] During August of 1893, when suspensions abounded, currency sold at a premium.

[25]Sprague (1910, p. 182).

6.6 Silver purchase act repealed

The arguments over silver continued during the 1890s. Opponents of silver suggested an asset-backed currency with complete backing by the U.S. government. President Grover Cleveland, who reassumed office in March 1893, had made it clear in prior statements that he was opposed to the silver legislation.[26] The market price of silver had continued to fall throughout the 1880s and early 1890s. By 1893, the market price of silver was nearly one-half its mint price.

This situation caused a continual drain of gold from the Treasury. By the early 1890s the Treasury's ability to redeem currency into gold was called into question. On April 22, 1893, the Treasury's gold reserve fell below the $100 million mark. Although it was not mandated by law, Secretaries of the Treasury viewed $100 million dollars as the minimum amount that should be held in the gold reserve.[27] This prompted President Cleveland to order a special session of Congress in August 1893. In a message to Congress, Cleveland argued for repeal of the Sherman Silver Purchase Act of 1890. The Act of November 1, 1893, made the repeal formal. However, the conversion of silver coin into silver certificates was still allowed.

In 1894, Treasury Secretary Carlisle proposed a plan that would

> Repeal all laws requiring, or authorizing, the deposit of U.S. bonds as security for circulation. [It would] permit national banks to issue notes up to an amount not exceeding 75% of their paid-up and unimpaired capital, but require each bank before receiving notes to deposit a guarantee fund consisting of legal tender notes, including Treasury notes of 1890, to the amount of 30% upon the circulating notes applied for.... [And] repeal the provisions of the reorganization act of July 12, 1882, imposing

[26]During his State of the Union address to Congress in December 1885, Cleveland made the following remarks on silver: "Those who do not fear any disastrous consequences arising from the continued compulsory coinage of silver as now directed by law, and who suppose that the addition to the currency of the country intended as its result will be a public benefit, are reminded that history demonstrates that the point is easily reached in the attempt to float at the same time two sorts of money of different excellence when the better will cease to be in general circulation. The hoarding of gold which has already taken place indicates that we shall not escape the usual experience in such cases."

[27]See Taussig (1893, p. 734).

> limitations upon the reduction and increase of national bank circulation. The Secretary of the Treasury may, in his discretion, use any surplus revenue of the United States in the redemption and retirement of U.S. legal tender notes, but such redemptions shall not in the aggregate exceed an amount equal to 70% of the additional circulation taken out by national and state banks. . . . (*Annual Report* of the Secretary of the Treasury 1894, pp. LXXVI–LXXVIII).

In addition, Carlisle proposed abolition of legal reserve requirements. Carlisle claimed that his proposal would provide a more elastic currency and would lead to a gradual retirement of legal tender notes.

In 1896, the free-silver Presidential candidate William Jennings Bryan was defeated. To some extent, this may have reduced the uncertainty with regard to which standard, gold or silver, the U.S. government would pursue. During 1896, world gold production and prices both increased rapidly. In June of 1898, the Treasury issued $200 million of 3% bonds (the 3s of 1908) to finance the Spanish-American War.

7 Marked Expansion (1900–1914)

The turmoil of silver agitation essentially ended on March 14, 1900, with passage of the Gold Standard Act. Specifically, the Gold Standard Act set a dollar equal to 25.8 grains of gold. All other forms of currency were to be maintained at parity with this value. A reserve fund of $150 million in gold was established. If the fund subsequently fell below $100 million, the Treasury was authorized to sell 3% (or less in annual percentage) coupon rate bonds payable in gold at the pleasure of the government.

The Gold Standard Act also changed the rule regarding the deposit of bonds as backing. Upon depositing U.S. bonds with the Treasury, a national bank would receive bank notes equal to 100% of the par or market value, whichever was less, of the bonds deposited. (Previously, the percentage was 90%.) The total value of the notes issued by any bank could not exceed the bank's paid-in capital. An annual tax

of 0.5% (levied semiannually) on a bank's average number of notes outstanding was imposed. However, this tax only applied to notes which used the new 2% bonds (the 2s of 1930 or any subsequent 2% issue) as security; all circulation based on bonds with coupon rates greater than 2% were still subject to the old annual tax rate of 1%. This differential tax treatment quickly accomplished its purpose of placing newly-issued 2% bonds as banks substituted the 2s of 1930 for their other holdings of bonds.

7.1 Increased Treasury influence

During the late 1800s and early 1900s, the power of the Treasury in financial matters increased immensely, much to the dismay of many. Secretaries of the Treasury proposed extensive changes in the banking system and implemented many of their own suggestions. For example, in 1901, Treasury Secretary Gage, dissatisfied with the lack of cohesion among banks, especially during crises, wrote, "Can not the principle of federation be applied under which the banks as individual units, preserving their independence of action in local relationship, may yet be united in a great central institution?"[28] It is interesting to note the organizational resemblance between Gage's ideal and that of the Federal Reserve System which would not come into existence for another twelve years.

Treasury influence continued to grow when in 1902 Leslie Shaw became Treasury Secretary under appointment by Theodore Roosevelt. He pledged to increase Treasury deposits with national banks and proceeded to fulfill that pledge. By law, national banks were required to hold "U.S. bonds and otherwise" as collateral on these public deposits. Timberlake claims that this increase in Treasury deposits "increased demand for the given stock of government securities, raised security prices,

[28] *Annual Report* of the Secretary of the Treasury (1901, p. 77).

and tended to diminish national bank note circulation."[29] Shaw allowed state and municipal bonds to be held at 75% of face value as collateral for Treasury deposits, thus freeing U.S. bonds for use as security for circulation.

Shaw also used Treasury policies as an instrument to expand and contract bank reserves on a seasonal basis. For example, in the fall of 1902, $70 million of government debt was repurchased at 137% of par as a means to bolster insufficient legal reserves of banks. Shaw's policies drew numerous criticisms claiming that he was meddling in business affairs and that he showed favoritism with respect to which banks received public deposits. However, Shaw, despite these criticisms, continued his policies.

In 1907, George Cortelyou assumed the position of Secretary of the Treasury. He followed Shaw's policies, but it is questionable whether his seasonal Treasury deposits with banks were as well-timed as those of Shaw, as is evidenced by the crisis that developed in that year. On March 4, 1907, an act was passed which provided for the issuance of gold certificates when the reserve fund of gold bullion was greater than $100 million.

7.2 The panic of 1907

The late 1890s and early 1900s saw the growth of several large trust companies. This presented the possibility of large withdrawals from New York banks, not only by interior banks, but also by the trust companies which held large deposits in those banks. Beginning in October 1907 a number of the largest trust companies experienced runs by depositors. Banks then, in turn, were confronted by withdrawals by trust companies and individual depositors, simultaneous to the normal fall flow of liquidity westward to fund crop movements. In fact, some banks experienced such large withdrawals that they were forced to suspend payments. For some reason, at

[29] Timberlake (1978, pp. 176–77).

this time, the issuance of clearinghouse loan certificates was delayed. Quickly, alarm over the circumstances spread to other parts of the country. As mentioned before, during previous crises currency had sold at a premium. Expectations of this reoccurring compounded the problem as many depositors withdrew currency for speculative reasons. And, in fact, during the 1907 crisis premiums on currency ran as high as four percent. Sprague attributes the massive suspensions that followed to the failure to issue clearing house loan certificates at the beginning of the crisis.[30] By late 1907 almost all banks had suspended payment. The crisis of 1907 was by far the worst that the National Banking System had experienced and prompted numerous cries for reform of the banking system.

7.3 The Aldrich-Vreeland Act of 1908

In response to the 1907 crisis, Congress passed the Aldrich-Vreeland Act of 1908 which, in effect, established an "emergency currency" which would hopefully avert future crises. Specifically, this act stated that national banks "having unimpaired capital and a surplus of not less than 20%, not less than ten in number, having an aggregate capital and surplus of at least five million dollars, may form voluntary associations to be called national currency associations." (Huntington and Mawhinney 1910, p. 32)

Those banks allowed could use securities designated by the Secretary of the Treasury, including commercial paper, as a basis for circulation, issuing up to 75% of the cash value of these securities in currency. State, city, town, country, or other municipal bonds also qualified as backing for circulation and notes could be issued on these securities up to 90% of their market value. Other national banks could apply to the Comptroller of the Currency for authority to issue notes secured by bonds other than

[30] See Sprague (1910, pp. 270–72).

U.S. bonds. The Comptroller would then transfer this application to the Secretary of the Treasury who, upon ascertaining whether business conditions in the locality of the bank required additional circulation, may grant permission. These other banks which received permission could issue circulation up to 90% of the par value of the securities deposited.

The act limited the total additional emergency circulation to $500 million. The 5% redemption fund also applied to this circulation and the notes were to be apportioned throughout the country. Circulation secured by other than U.S. bonds was subject to a tax of 5% per year for the first month, and an additional 1% per year for each succeeding month, up to 10% per year. It was this clause which shows that the act was intended to provide for emergency circulation during the time of a crisis. The tax was designed to hasten the retirement of the newly-issued notes as the crisis waned.

The features of the Aldrich-Vreeland Act were only tested once before the act's expiration on June 30, 1915. This occurred with the outbreak of World War I. The closing of the stock exchange on July 31, 1914, precipitated large withdrawals of currency by country banks from city banks. As soon as bank runs began, emergency circulation was issued. By late November, over $400 million in emergency currency had been issued. As Friedman and Schwartz state, "To judge by that one episode, the Aldrich-Vreeland Act provided an effective device for solving a threatened interconvertibility crisis without monetary contraction or widespread bank failures." (Friedman and Schwartz 1963, p. 172)

During the remaining period of the National Banking System, numerous proposals to reform the banking system were discussed. These discussions had actually been taking place since the mid-1890s with the presentation of the so-called Baltimore Plan by the American Bankers Association. The proposals culminated with the passage of the Federal Reserve Act on December 23, 1913. This marked the end of the National

Banking System.

A Main Features of the National Banking Act

This appendix details many of the important features of the National Banking Act and subsequent changes in the laws regarding national banks. The dates found within the appendix refer to the date the specific law or amendment was enacted.[31]

A.1 Minimum Capital Requirements

The National Banking Act specified minimum capital requirements for a bank to obtain a national charter. The Act of June 3, 1864, stated that those requirements depended on the population of a bank's locale according to:

Population	Minimum Capital ($)
$< 6{,}000$	50,000
6,000–49,999	100,000
$\geq 50{,}000$	200,000

As of March 14, 1900, the establishment of national banks with minimum capital requirements of $25,000 was allowed in locales with populations less than 3,000.

A.2 Minimum Bond Deposit

The National Banking Act required national banks to deposit a minimum quantity of eligible bonds with the U.S. Treasury before commencing business.

June 3, 1864	Requires the deposit of registered bonds to an amount not less than $30,000 nor less than one-third of paid-in capital
July 12, 1882	Banks with a paid-in capital less than $150,000 are required to hold only a minimum of bonds equal to one-fourth the value of their paid-in capital.

[31]The primary source for this material is Huntington and Mawhinney (1910).

A.3 Constraints on Bank Note Issue

A.3.1 Limits on aggregate quantity of notes outstanding

The original National Banking Acts placed limits on the aggregate quantity of notes that could be issued by national banks. These limits were revised in 1870 and eliminated in 1874.

February 25, 1863	$300 million
July 12, 1870	$354 million
January 14, 1875	Limits repealed

A.3.2 Limits on note issue for individual banks

The Act of July 12, 1870, set the maximum circulation for any single national bank at $500,000.

A.3.3 Limits on circulation based on bonds deposited as backing

National bank notes were fully backed by holdings of U.S. government bonds. The amount of notes returned to the issuing bank for a given deposit of bonds was specified as:

February 25, 1863	80% of the "value" of the bonds despited (The act is ambiguous as to the meaning of "value," par or market value.)
June 3, 1864	90% of the par or market value, whichever was lower, of the bonds deposited
March 14, 1900	100% of the par or market value, whichever was lower, of the bonds deposited

A.3.4 Limits on circulation based on paid-in capital

A national bank's paid-in capital also imposed limits on the amount of notes it could issue, according to:

June 3, 1864	Up to 100% of paid-in capital
March 3, 1865	Dependent on the magnitude of paid-in capital of a bank according to:

Paid-in Capital ($)	Notes Issued as a Percent of Paid-in Capital
< 500,000	Up to 100%
500,000–999,999	Up to 80%
1,000,000-2,999,999	Up to 75%
≥ 3,000,000	Up to 60%

A.4 Limits on the Withdrawal of Circulation

A national bank could reduce its notes outstanding by depositing lawful money with the U.S. Treasury. The bonds held as backing would be returned to the bank. Notes sent to the Treasury for redemption would be withdrawn from circulation until the total reduction in notes was complete. Any bank that reduced its circulation could not subsequently expand its circulation for a period of six months.

The Act of July 12, 1882, limited the aggregate quantity of circulation that could be withdrawn to $3 million per month (unless the bonds used as backing were called for redemption). The Act of March 14, 1900, increased this limit to $6 million per month.

A.5 Taxes

The National Banking Act imposed taxes on national bank notes as well as on national bank holdings of deposits and capital.

A.5.1 Taxes on circulation

June 3, 1864	One percent annual tax on the average amount of notes in circulation, levied semiannually
March 14, 1900	Notes backed by two percent coupon rate bonds: one-half percent annual tax, levied semiannually. Notes backed by other bonds: one percent annual tax, levied semiannually

A.5.2 Taxes on deposits

June 3, 1864	One-half percent annual tax on the average amount of deposits, levied semiannually

A.5.3 Taxes on capital

June 3, 1864	One-half percent annual tax on the average amount of a bank's capital stock beyond the amount invested in government bonds, levied semiannually

A.6 Reserve Requirements

The National Banking Act organized the reserve system into three distinct tiers. The top tier consisted of banks located in central reserve cities. New York City was specified as the only central reserve city in the original act, Chicago and St. Louis becoming central reserve cities in 1887. The middle tier of banks were deemed reserve city banks. Eighteen reserve cities were established by the original act. The number of reserve cities increased over time to a total of 47 by the end of the period. The bottom tier consisted of the remaining banks, called country banks.

Required reserves were to be held in the form of lawful money, which initially consisted of gold or silver coin and U.S. notes. Eventually, gold and silver certificates also would qualify as lawful money.

June 3, 1864: Under this act, reserve requirements were dependent on a bank's locale. The act specified locations to be either central reserve cities, reserve cities, or country banks.[32]

Central reserve city banks	25% of national bank note circulation and deposits, all in bank
Reserve city banks	25% of national bank note circulation and deposits (one-half of the 25% could be held as deposits with a correspondent bank in a central reserve city, rest in bank)
Country banks	15% of national bank note circulation and deposits (three-fifths of the 15% could be held as deposits with a correspondent bank in a reserve or central reserve city, rest in bank)

June 20, 1874: Repealed reserve requirements on national bank note circulation, maintaining reserve requirements on deposits according to the above three tiers. The 5% bank note redemption fund established by this act was declared to count toward satisfying legal reserve requirements.

[32]After 1887, a city of a certain population became eligible to become a central reserve city or reserve city. Designation as a central reserve city or as a reserve city required approval by 3/4 of the national banks operating in the city and by the Comptroller of the Currency. Only cities with a population of 200,000 were eligible to become central reserve cities. For reserve cities, the minimum population was 50,000.

References

Cagan, Phillip. 1963. "The First Fifty Years of the National Banking System." In *Banking and Monetary Studies*, edited by Deane Carson, 15–42. Homewood, IL: Richard D. Irwin.

———. 1965. *Determinants and Effects of Changes in the U.S. Money Stock, 1875-1960.* New York: National Bureau of Economic Research.

Dewey, Davis Rich. 1918. *Financial History of the United States.* New York: Longmans, Green and Company.

Friedman, Milton. 1992. *Money Mischief: Episodes in Monetary History.* New York: Harcourt Brace Jovanovich.

Friedman, Milton, and Anna J. Schwartz. 1963. *A Monetary History of the United States, 1867–1960.* Princeton: Princeton University Press.

Hepburn, A. Burton. 1915. *A History of Currency in the United States.* New York: The Macmillan Company.

Huntington, A. T., and R. J. Mawhinney. 1910. *Laws of the United States Concerning Money, Banking, and Loans, 1778-1909.* Washington, D.C.: U.S. Government Printing Office.

Krooss, Herman E., ed. 1977. *Documentary History of Banking and Currency in the United States.* Volume 1-3. New York: McGraw-Hill.

Mitchell, W. C. 1903. *A History of the Greenbacks.* Chicago: University of Chicago Press.

Sprague, O. M. W. 1910. *A History of Crises under the National Banking System.* Washington: U.S. Government Printing Office.

Sumner, William G. 1874. *A History of American Currency.* New York: Holt.

Taussig, F. W. 1893. "The Crisis in the United States and the Repeal of Silver Purchase." *The Economic Journal* 3 (12): 773–745 (December).

Timberlake, Richard H. 1978. *The Origins of Central Banking in the United States.* Cambridge: Harvard University Press.