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New Evidence on the Free Banking Era

By ARTHUR J. ROLNICK AND WARREN E. WEBER*

The argument for free competition in most economic endeavors has much appeal. Under fairly general conditions, economic agents acting in their own self-interest produce an economically efficient outcome, that is, a situation in which no one person can be made better off without someone else being made worse off. Yet despite both the logic of the argument and the apparent real world success of free enterprise economies, there has been one industry, one economic activity, that even ardent proponents of *laissez-faire* have been afraid to leave to the vicissitudes of the free interchange of supply and demand. This is the business of banking, an industry that most believe is inherently unstable.

This fear and reluctance to permit free competition in banking is not based on an explicit theoretical foundation that has confronted real world events, but rather on the events themselves. The United States has experienced many periods of major banking panics during which a large number of banks have failed and financial markets have been in considerable disarray. The period considered by many as the worst is the one period when banks were more or less left alone to pursue their own profit-motivated interests, the period known as the Free Banking Era (1837–63). Its problems are often cited as evidence that banking should be regulated.

On a reevaluation of the Free Banking Era, which develops and examines far more detailed empirical evidence on this period than has been considered in any previous research, we find that the history of free banking was not as chaotic as many believe.

From a casual view of history, the reluctance to allow unfettered competition in banking is understandable. There is a long and costly history in U.S. banking of instability, banking panics, and major disruptions to economic activity. Most date these problems back to the Free Banking Era when there were no federal regulations, when entry barriers were low, and when banks were free to issue their own notes and to compete for deposits and loans. Historians have found this period chaotic and filled with speculators, wildcat banks, and bank failures. Then came the national banking system (1863–1913), which has been seen as an improvement, although problems still persisted. Under this system, national banks were subject to supervision and regulation by the Comptroller of the Currency, who presumably promoted a much safer and sounder form of banking than the state officials. This new system was still not good enough to prevent the recurrence of major bank panics and was replaced in 1913 by the Federal Reserve System. Not until the nation had both a strong central bank and federal deposit insurance (1933–35), however, did it appear to have solved the inherent instability problem in banking.

This historical record appears to have even convinced the staunchest proponents of free enterprise. Milton Friedman (1960), for example, made his position clear when he responded to Gary Becker's (1957) proposal for *laissez-faire* banking. Becker suggested that the United States permit free deposit banking, without any requirements about reserves or supervision over assets or liabilities and with a strict caveat emptor policy. Friedman rejected Becker's proposal, arguing that

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while it had some merit, "it would not... solve the problem of 'inherent instability'" (p. 108, note 10).

Clearly, Friedman holds the majority view; much of U.S. bank regulation and supervision is aimed at promoting a safe and sound banking system. Nevertheless, observing instability in banking does not necessarily mean that the instability is inherent. Recent theoretical work suggests, in fact, that government intervention, supposedly aimed at safeguarding the system, may have produced the observed problems. John Kareken and Neil Wallace (1978) find that under certain assumptions there are no bank failures under *laissez-faire* banking. In their model, failures are induced by the nonoptimal pricing of government deposit insurance. Eugene Fama (1980) argues that, under competitive banking, "...portfolio management activities... fall under the Modigliani-Miller theorem on the irrelevance of pure financing decisions. It follows that there is no need to control the deposit creation or security purchasing activities of banks to obtain a stable general equilibrium with respect to prices and real activity" (p. 39). J. Huston McCulloch (1981) argues that the maturity transformation activity of banks borrowing short and lending long is not a natural function of financial intermediaries. It is a malfunction that is a by-product of several forms of government intervention that encourages what he calls "misintermediation" (p. 103).

Such theories, however, must be able to confront the data. If unfettered banking is optimal, why did it not work during the Free Banking Era? Why did the *laissez-faire* system turn out to be so chaotic and so costly? Why did it lead to wildcat banking and large numbers of bank failures in virtually all states that passed free banking laws?

To help find answers to these questions and eventually test alternative theories of banking, we look much more closely at this period than previous researchers.¹ Using the

original state auditor reports for several of the states that adopted free banking laws, we collected individual bank information on the banks that existed under the free banking laws in these states. This information allows us to determine the number of free banks that closed and to estimate what losses, if any, were sustained by the holders of their notes. While our new evidence confirms there were problems with free banking, it challenges the view that free banking led to financial chaos.

In the next section of this paper we describe the Free Banking Era and why it has been generally regarded as a failure of *laissez-faire* banking. The second section contains our data on free bank failure rates, on length of time in business, and on note safety and noteholder losses. Using these data, we compare the free banking experiences of the states we consider and contrast our findings with the conventional view of free banking. The final section contains a summary and conclusion.

I. The Conventional View of Free Banking

Because of the U.S. public's concern about financial instability and the misuse of financial power, banking has historically been one of the nation's most regulated and supervised industries. These concerns date back to the First (1791-1811) and Second (1816-36) Banks of the United States. Both banks acted as private as well as public banks, and both reportedly used their financial power to at times rein in any banks they thought were too aggressive in issuing notes and were thus likely to cause currency problems. It was precisely this use of financial power by quasi-private banks, however, that caused Congress to revoke their charters. In both

¹Hugh Rockoff (1975) produced the first analysis of the Free Banking Era that tried to support a theory of what went wrong. Examining all states that adopted free banking laws, Rockoff argues that the instability in free banking systems was caused not by special economic

factors nor by the lack of a central banking authority, but rather by specific problems with the laws themselves and at times a failure to enforce them properly. Specifically, Rockoff argues that the problems occurred when the states allowed free banks to value the notes securing their bonds at par. Here we will not be concerned with testing Rockoff's theory. This is done in our 1982a, b studies.

instances, the public was concerned that these banks had become too big and too powerful.

Over the years, beginning with the National Banking Act of 1863, the concerns with financial instability and the misuse of financial power have produced a variety of laws, regulations, and government agencies aimed at controlling banks and protecting their depositors. Commercial banks have been restricted in location, in size, in portfolios, and in the interest they can pay depositors. Interstate branch banking has been explicitly prohibited since the McFadden Act of 1927, and intrastate branch banking has been restricted to some degree in almost every state. Bank size has been closely watched, limited first by branching restrictions and then by the Bank Holding Company Act of 1956 and the Bank Merger Act of 1960. And under the Banking Acts of 1933 and 1935, banks have been prohibited from underwriting and distributing non-government securities, owning common stock, and, until recently, paying interest on demand deposits.

Not only have bank operations been restricted, they have also been closely scrutinized. No less than three separate federal agencies (as well as state banking authorities) play a role in regulating, supervising, and examining bank operations. The Comptroller of the Currency oversees the activities of national banks; the Federal Deposit Insurance Corporation (FDIC) oversees the activities of all FDIC-insured banks; and the Federal Reserve System supervises its member banks.

In order to promote stability and prevent the misuse of financial power, the federal government has clearly played an active role in regulating banking. Only in the period between the end of the Second Bank of the United States (1836) and the National Banking Act (1863) have banks been subject to almost no federal intervention. During this period, federal government involvement in the regulation of banking was limited to restrictions on banks that held federal deposits, and even these restrictions were removed by the adoption of the Independent Treasury System in January 1847. So throughout this period, states were essen-

TABLE 1—STATES WITH AND WITHOUT FREE BANKING LAWS BY 1860

States with Free Banking Laws	Year Passed Law	States without Free Banking Laws
Michigan	1837 ^a	Arkansas
Georgia	1838 ^b	California
New York	1838	Delaware
Alabama	1849 ^b	Kentucky
New Jersey	1850	Maine
Illinois	1851	Maryland
Massachusetts	1851 ^b	Mississippi
Ohio	1851 ^c	Missouri
Vermont	1851 ^b	New Hampshire
Connecticut	1852	North Carolina
Indiana	1852	Oregon
Tennessee	1852 ^b	Rhode Island
Wisconsin	1852	South Carolina
Florida	1853 ^b	Texas
Louisiana	1853	Virginia
Iowa	1858 ^b	
Minnesota	1858	
Pennsylvania	1860 ^b	

Source: Rockoff (1975, pp. 3, 125–30).

^aMichigan prohibited free banking after 1839 and then passed a new free banking law in 1857.

^bAccording to Rockoff, very little free banking was done under the laws in these states.

^cIn 1845, Ohio passed a law that provided for the establishment of "Independent Banks" with a bond-secured note issue.

tially free to design and regulate their own systems, and the system most chose was based on the free banking acts designed by New York legislators. The first state free banking act that actually became law, however, was Michigan's in 1837. New York and Georgia followed in 1838. (A complete list of the states which adopted free banking and the years they did so is given in Table 1.)

Two characteristics of the free banking laws distinguish free banks from traditionally chartered banks. First, the laws made entry relatively easy. Traditionally, to open a bank, entrepreneurs had to convince state legislators that a new bank was needed and that they were competent bankers. Such legislative charters were not required under free banking laws. Individuals with a certain minimum amount of capital could start a bank whenever and wherever they chose. Second, the free banking laws attempted to

protect the noteholders. The laws required that designated state and federal bonds had to be deposited with a state authority as security for all notes. Moreover, banks were required to pay specie for their notes on demand and at par value. Banks received the interest on bonds used as security against their note issue only as long as they honored this specie-on-demand requirement. Failure to pay specie to even a single noteholder meant that the state would close the bank, sell the securities held as collateral, and reimburse all noteholders. Most free banking laws provided additional protection for noteholders by giving them first lien on the assets of a bank.

According to the conventional view, free bank notes did not work very well as a medium of exchange despite this protection. Because there were so many banks of varying reputations issuing notes, bank notes sold at different prices in different places, making transactions with such notes quite complicated at times. Moreover, noteholders suffered losses throughout this period, especially those who held notes of so-called wildcat banks. These were banks that located note redemption offices only in areas where the "wildcats roamed" and then closed, leaving their noteholders with worthless pieces of paper.

The literature is filled with references to the debacle caused by free banking laws and the wildcat banks that appeared and then quickly disappeared. John Knox, for example, describes the free banking experience in Indiana as "...the darkest page in her financial history..." (1903, p. 701). According to Knox, Indiana's free banking law

... was loosely drawn, and opened wide the door for fraud. It was speedily taken advantage of by daring speculators, and banks sprung up like mushrooms everywhere.... Such a flood of paper money, with no substantial backing could not help proving disastrous. The bills rapidly depreciated, and notes taken one afternoon at eighty cents might be quoted the next morning at sixty-five, or even lower; thus all values and all business were deranged.

[pp. 701-02]

Wildcat banking apparently was not confined to Indiana. As Bray Hammond reports, in Michigan, Wisconsin, and Illinois,

Speculators bought bonds, issued notes to pay for them, and eluded their debtors by taking to the woods among the wildcats. Notes were issued by banks with no known place of business, and no regular office hours; and kegs of nails with coin lying on top were moved overnight from "bank" to "bank" to show up as cash reserves just ahead of the bank examiners. [1963, p. 9]

Recent work by Hugh Rockoff (1975) adds New Jersey, Minnesota, and even New York to the list of states that suffered at least some degree of wildcat banking.

This view of the Free Banking Era has become the conventional view that appears in most standard texts on money and banking. Dudley Lockett's text is a good example:

...free banking degenerated into so-called *wildcat banking*. Banks of very dubious soundness would be set up in remote and inaccessible places "where only the wildcats thrive." Bank notes would then be printed, transported to nearby population centers, and circulated at par. Since the issuing bank was difficult and often dangerous to find, redemption of bank notes was in this manner minimized. These and similar abuses made banking frequently little more than a legal swindle.

[1980, p. 242]

For students of banking, the implications of this view are very clear. The banking industry, left on its own, is unstable. Unless banks are closely regulated and supervised, banking will self-destruct, causing chaos in financial markets and substantial losses to bank creditors and ultimately affecting real economic activity. Phillip Cagan goes so far as to assert, "The nation could not so easily have achieved its rapid industrial and commercial expansion during the second half of the nineteenth century with the fragmented currency system it had during the first half..." (1963, p. 20).

II. The Free Banking Evidence

The conclusion that when banking was left on its own it failed has significant implications for regulatory policy and to a great extent influences policy today. Surprisingly, though, this conclusion is based on casual empiricism. To better understand what went wrong with free banking systems, we have gone back to the original state auditor reports to document the financial history of the population of free banks in four states. We describe in much greater detail than previous research the variety of experiences among states, and we find considerable reason to question the prevailing view of free banking.

For our study we selected four states which altogether represent a wide range of experience with free banking systems and which have state auditor reports available. These were New York, Wisconsin, Indiana, and Minnesota.

We chose New York because it supposedly had the most stable system. Bray Hammond (1957) claims that, because of New York's sound banking practices, free banking worked well in the state. Rockoff's (1975) work lends some support to Hammond; he finds that New York after 1840 was relatively free of wildcat banking. And historians generally regard New York's system as an exception to the typically chaotic free banking systems of other states. We chose Wisconsin and Indiana because, while they reportedly had serious problems with their systems, they also had periods when free banking appeared to work reasonably well. Minnesota, our fourth state, was chosen because its experience is thought to be one of the worst. Rockoff claims that this state's experience is a good example of the way wildcat banking arises and the damage it causes.

Due to the apparent diversity of free banking experiences in these four states, a close look at the data provides insights into the generally accepted view that the free banking experience was a failure. The conventional view appears to be based on three ideas about the Free Banking Era that are accepted

as facts:

- 1) Free bank failures were numerous.
- 2) Free banks were in business for a relatively short period of time.
- 3) Free bank notes were not safe, and free bank failures produced substantial losses for their noteholders.

A large amount of data on failure rates, on years in business, and on note safety and losses to noteholders was available for our four states (see Tables 2–5). These data suggest that the “facts” underlying the conventional view of free banking are not entirely correct and that the conventional view of free banking is an exaggeration.

A. Failure Rates

Our data suggest that the accepted view on free bank failures is overstated. While a large number of the banks that opened under the free banking acts closed well before 1863, few of these banks failed in the sense of paying noteholders less than the par value of their notes.² Specifically, about half of the free banks in the states we investigated closed, but less than a third of the banks that closed did not redeem their notes at par.

Evidence supporting this assertion is presented in Table 2, which summarizes the experience in each state. Column 1 contains the total number of free banks in each state. New York with 449 free banks between 1838 and 1863 is our largest system; Minnesota with only 16 free banks between 1858 and 1862 is our smallest. Column 2 reports the number of banks for which we could find redemption information. Column 3 contains the number (and percentage) of free banks that closed. New York had the most closings, but as a percentage of the total number of its free banks it had the least. Column 4 contains the number (and percentage) of closed banks that redeemed their notes below par and can thus be considered failures.

²We define a free bank failure in this way because a major intent of the free banking laws was to provide a safe currency. The laws made no attempt to insure depositors or shareholders against risk.

TABLE 2—NUMBER OF FREE BANKS, FREE BANK CLOSINGS, AND FAILURES
IN FOUR STATES

State (Free Banking Years)	Free Banks (1)	Free Banks with Redemption Information (2)	Free Banks that Closed (% of Col. 1) (3)	Free Banks that Failed (% of Col. 2) (4)
New York (1838–63)	449	445	160 (36)	34 (8)
Wisconsin (1852–63)	140	140	79 (56)	37 (26)
Indiana (1852–63)	104	77	89 (86)	24 (31)
Minnesota (1858–62)	16	16	11 (69)	9 (56)
Total	709	678	339 (48)	104 (15)

Sources: New York, Indiana, and Minnesota state auditor reports and Wisconsin state auditor reports as given in U.S. Congress (1838–63).

Table 2 clearly confirms the accepted impression that free banking did not work: a large number of banks closed during the Free Banking Era. Of the 709 free banks in the four states we considered, 339 (48 percent) closed. Over half of all free banks which existed in Wisconsin, Indiana, and Minnesota closed, and the highest closing rate was Indiana's 86 percent. Even in New York, which had the smallest percentage of bank closings, 36 percent of all free banks closed.

However, a somewhat milder picture emerges if we consider only those free banks that closed and redeemed their notes below par, that is, banks which we consider to have failed. We find that only 104 (15 percent) of the 678 free banks on which we were able to obtain redemption rate information actually closed with below par redemption of notes. Thus, only about one out of three free bank closings resulted in losses to noteholders. Examining the evidence state by state, we find only 8 percent of New York's free banks closed with below par redemption. The below par closing rates for Wisconsin and Indiana were virtually equal—3 out of 10. Minnesota had the highest below par closing rate: 56 percent. The individual state results confirm the general impression that New York's free banking system worked well and that Minnesota's free banking experience was

among the worst.³ They also confirm the view that free banking created at least some problems in most states that adopted a free banking law. However, viewing the nearly 50 percent closing rate as a failure rate clearly exaggerates the extent of the problems.

B. *Years in Business*

Another part of the conventional view is that many banks formed under free banking laws were not only unsuccessful, but they were also short-lived. Rockoff, for example, in developing an explanation of wildcat banking under free banking laws, assumes such banks were in business for only a month or two (1975, p. 8). Our data suggest that this part of the conventional view is also overstated.

³Actually, Minnesota's experience was worse than our table shows. The State Bank of Minnesota withdrew all but a small fraction of its circulation within a year after opening and did not issue notes again until it moved to St. Paul in October 1862. Besides that, according to the report of Minnesota's state auditor for 1861, "the La Crosse and La Crescent and Chatfield banks maintain no office of discount, deposit, and circulation in this State. Their circulation is entirely confined to Wisconsin" (p. 16). Thus, only 2 of Minnesota's 16 free banks remained in operation during the entire five-year period we consider.

We estimated the length of time each free bank in our states existed from the reports of condition they filed with the state auditors. First we compiled tables showing the dates at which each bank appeared in condition reports from the time a state's free banking act was passed until 1863.⁴ Then we assumed that a free bank opened half-way between the date of the first condition report in which it appeared and the date of the previous report and that a free bank closed half-way between the date of the last condition report in which it appeared and the date of the next condition report. We estimated the length of time a free bank was in business as the difference between these dates. These estimates are given in Table 3. Banks which never appeared in a condition report are assumed to have been in existence for zero years. Minnesota is not included in the table because we know most of its banks existed for only a short time, and we doubt whether those banks that existed longer did much banking business during 1860 and 1861. (See fn. 3.)

Note that this evidence understates the number of years some free banks were in business, for two reasons. First, since we consider the Free Banking Era as ending in 1863, our estimates ignore the fact that some banks continued to exist after 1863 as either state banks or national banks. Second, since condition reports for New York's free banks were not available until 1843 (five years after its free banking law was passed), we consider all New York free banks as starting business in that year.

Despite these downward biases, our estimates indicate that the New York and Wisconsin free bank populations were not marked by large numbers of short-term banks. New York free banks were in business a mean of 7.9 years (a median of 8 years), and Wisconsin free banks were in business a mean of 4.3 years (a median of 4 years). The free banks in Indiana were in business for far shorter periods. The mean

TABLE 3—NUMBER OF FREE BANKS BY YEARS IN BUSINESS FOR THREE STATES

Number of Years in Business	Number of Banks			
	New York ^a	Wisconsin	Indiana	Total
0.0 ^b	48	4	30	82
0.5	—	0	18	18
1.0	37	13	24	74
1.5	—	4	1	5
2.0	19	13	1	33
2.5	—	5	3	8
3.0	25	19	4	48
3.5	—	5	3	8
4.0	16	14	3	33
4.5	—	13	1	14
5.0	14	6	0	20
5.5	—	13	0	13
6.0	26	1	2	29
6.5	—	7	0	7
7.0	29	3	3	35
7.5	—	8	5	13
8.0	23	0	0	23
8.5	—	2	0	2
9.0	23	2	2	27
9.5	—	0	4	4
10.0	71	2	—	73
10.5	—	6	—	6
11.0	35	—	—	35
12.0	1	—	—	1
13.0	14	—	—	14
14.0	12	—	—	12
15.0	7	—	—	7
16.0	1	—	—	1
17.0	4	—	—	4
18.0	2	—	—	2
19.0	10	—	—	10
20.0	31	—	—	31
	Number of Years in Business			
Mean	7.9	4.3	2.0	6.3
Median	8.0	4.0	1.0	5.5

Sources: See Table 2.

^aThe Manufacturer's Bank of Rochester, which opened in 1856, and the Eagle Bank of Rochester, which opened in 1850, merged in 1859 to form the Trader's Bank of Rochester. Consequently, the Manufacturer's Bank of Rochester was excluded from this calculation, and the merged bank was treated as existing since 1850.

^bNumber of banks which did not appear on any condition report.

length of time a bank existed there was 2 years (the median, only 1 year). Nonetheless, considering the three states together, free banks were in business a mean of 6.3 years (a median of 5.5 years) and only 14 percent were in business less than 1 year.

⁴These tables are available from the authors upon request.

C. *The Safety of Bank Notes and Noteholder Losses*

We find the most exaggerated part of the conventional view of free banks is that concerning the safety of the bank notes and the losses to noteholders. Many have asserted that free bank notes were generally unsafe, and some have claimed that in some individual states, the losses to noteholders ran into the millions of dollars.⁵ Our data, however, tell a much different story. They indicate that free bank notes were relatively safe and that the losses to noteholders were smaller than many have estimated.

To determine how safe free bank notes were over time for each state, we multiplied the circulation of each free bank in each condition report by its final redemption rate, totaled the products for all banks for each report date, and divided the sum by the total circulation of all banks for which we had redemption rate information. The result, shown in Table 4, is a measure of the expected value of a randomly selected bank note held until 1863 as of the date of each condition report.

The evidence in Table 4 shows that free bank notes were relatively safe, although the degree of safety varied over states and over time within a state. New York bank notes were the safest; the expected value of a randomly selected New York bank note never fell below 99 cents on the dollar, and for many years this expected value was one dollar. Wisconsin's experience was at first very similar to New York's, but the safety declined over time to a low of 88 cents on the dollar in 1861. (All of Wisconsin's failures occurred in 1860 and 1861; see our 1982b study.) Indiana's problems with free banking occurred within two or three years after its free banking act became law in 1852. This is shown by the expected values of 92 and 95 cents on the dollar in 1853 and 1854, respectively. However, as early as 1856, Indiana's

free banking experience was also very similar to New York's. Finally, Minnesota definitely had the worst bank note safety, with expected values of less than 50 cents on the dollar through July 1859. However, the safety of Minnesota free bank notes improved substantially after this time; expected values were above 80 cents on the dollar by October 1859.

Given that the above measure of free bank note safety indicates that these notes were not perfectly safe, the question arises: how much did noteholders lose? The losses of noteholders in our four free banking states cannot be calculated exactly. However, using the data on free bank circulation and redemption rates, the magnitude of such losses can be estimated. Three estimates using different assumptions are shown in Table 5.⁶

The first estimate (col. 1) is based only on those failed banks for which circulation data were available. It is the result of multiplying the last circulation for each bank which failed by one minus its redemption rate. Since circulation data were available for only 88 of the 104 failures in our four states, this estimate can be considered a lower bound on total losses. However, it is probably biased upward because some notes included in the circulation numbers we used may have been redeemed at par before the bank failed.

The second estimate (col. 3) expands the coverage to include the failed banks for which no circulation data were available. It is the result of multiplying the average loss per bank (col. 2, based on col. 1) by the total number of failures in each state. We consider this estimate our best approximation of the total losses to the holders of notes of failed free banks, although it is subject to the same upward bias mentioned above.

Finally, because in New York and Indiana we could not determine whether or not some

⁵See, for example, the statement of Hugh McCulloch, President of the Bank of the State of Indiana (not a free bank), cited in Hammond (1957, p. 620).

⁶We have divided the New York and Indiana experience in calculating the average loss per bank because there are substantial differences in these subperiods for these two states. Combining the experience leads to slightly smaller estimates of the total losses in cols. 3 and 4.

TABLE 4—FREE BANK NOTE SAFETY AND CIRCULATION IN FOUR STATES

State	Date of Condition Report	Expected Value of a Randomly Selected Dollar Bank Note	Note Circulation of All Free Banks	Number of Free Banks	Average Circulation per Bank
New York	1843 (Nov.)	\$0.997	\$ 3,362,737	50	\$ 67,254.74
	1844 (Nov.)	0.998	5,036,953	65	77,491.58
	1845 (Nov.)	0.999	5,544,311	67	82,750.91
	1846 (Nov.)	0.999	6,235,397	70	89,077.10
	1847 (Feb.)	0.998	5,970,941	70	85,299.16
	1848 (Mar.)	0.993	8,621,269	93	92,701.82
	1849 (Dec.)	0.998	10,191,000	109	93,495.41
	1850 (Dec.)	0.998	13,197,995	130	101,523.04
	1852 (June)	0.999	14,621,582	158	92,541.66
	1853 (Dec.)	0.999	21,029,339	221	95,155.38
	1854 (Sept.)	0.999	21,435,545	232	92,394.59
	1855 (Sept.)	1.00	23,169,329	239	96,942.80
	1856 (Sept.)	1.00	26,476,389	261	101,442.10
	1857 (Sept.)	1.00	22,015,221	266	82,763.99
	1858 (Dec.)	1.00	23,229,189	268	86,676.08
	1859 (Dec.)	1.00	24,524,209	273	89,832.27
	1860 (Dec.)	1.00	23,900,049	279	85,663.26
	Wisconsin	1861 (Dec.)	1.00	25,990,007	276
1862 (Dec.)		1.00	35,049,604	289	121,278.91
1853 (July)		\$1.00	\$ 301,748	8	\$ 37,718.50
1854 (Jan.)		1.00	485,121	10	48,512.10
1854 (July)		0.991	786,216	19	41,379.79
1855 (Jan.)		0.991	740,764	23	32,207.13
1856 (Jan.)		0.983	1,060,165	30	35,338.83
1857 (Jan.)		0.964	1,702,570	45	37,834.89
1858 (Jan.)		0.936	2,913,071	68	42,839.28
1859 (Jan.)		0.928	4,695,168	99	47,425.94
1860 (Jan.)		0.896	4,429,855	107	41,400.51
1861 (Jan.)		0.882	4,283,175	108	39,659.03
Indiana	1862 (Jan.)	1.00	1,419,413	62	22,893.76
	1862 (July)	1.00	1,643,148	60	27,385.80
	1853 (Dec.)	\$0.922	\$ 3,167,547	30	\$105,584.90
	1854 (July)	0.949	5,219,105	46	113,458.80
	1856 (Jan.)	0.997	1,448,318	32	45,259.94
	1856 (July)	0.997	1,423,895	34	41,879.26
	1857 (July)	0.992	1,453,703	26	55,911.65
	1858 (Jan.)	0.990	1,079,928	19	56,838.32
	1858 (July)	0.989	1,043,608	18	57,978.22
	1859 (Jan.)	0.989	1,027,569	16	64,223.06
	1859 (July)	0.989	1,080,577	17	63,563.35
	1860 (Jan.)	0.990	1,108,396	17	65,199.76
	1860 (July)	0.990	1,143,466	18	63,525.89
	1861 (Jan.)	1.00	1,035,664	18	57,536.89
1862 (Jan.)	1.00	971,933	18	53,996.28	
1862 (July)	1.00	1,109,411	18	61,633.94	
1863 (Jan.)	1.00	1,223,426	17	71,966.24	
Minnesota	1859 (Jan.)	\$0.456	\$ 50,000	2	\$ 25,000.00
	1859 (Apr.)	0.489	216,549	7	30,935.57
	1859 (July)	0.500	298,959	13	22,996.85
	1859 (Oct.)	0.810	155,258	11	14,114.36
	1860 (Jan.)	0.876	34,481	6	5,746.83
	1860 (Apr.)	0.846	38,898	6	6,483.00
	1860 (July)	0.820	44,381	5	8,876.20
	1860 (Oct.)	0.850	49,145	5	9,829.00
	1863 (Jan.)	1.00	94,133	5	18,826.60
	1863 (Oct.)	1.00	100,161	5	20,032.20

Sources: See Table 2.

TABLE 5—ESTIMATED LOSSES TO FREE BANK NOTEHOLDERS IN FOUR STATES

	Total Losses of Free Bank Failures with Circulation ^a (1)	Average Loss per Bank (2)	Total Losses of All Free Bank Failures (3)	Total Losses of All Free Bank and Unidentified Failures (4)	Average Loss per Dollar (5)
New York					
Before Oct. 1841	\$ 282,415.77 (13/15)	\$21,724.29	\$ 325,864.35	\$ 325,864.35	\$0.2637
In and After Oct. 1841	213,974.33 (15/19)	14,264.96	271,034.15	328,093.97	0.2599
Wisconsin	503,151.42 (37/37)	13,598.69	503,151.42	503,151.42	0.2444
Indiana					
Before 1856	204,837.07 (12/21)	17,069.76	358,464.87	768,139.01	0.1069
In and After 1856	15,344.50 (3/3)	5,114.83	15,344.50	30,689.00	0.1533
Minnesota	146,854.09 (8/9)	18,356.76	165,210.85	165,210.85	0.7050
Total	1,366,577.18 (88/104)		1,639,070.14	2,121,148.60	

Sources: See Table 2.

^aFractions in parentheses indicate number of failed free banks with circulation available/total number of failures.

banks closed below par, we calculated a third estimate (col. 4) as an upper bound on the losses suffered by holders of free bank notes. In the third estimate, we assumed all of the unidentified banks in these states failed, and we used the average loss per bank (col. 2) to estimate their losses.

We estimate that the total losses to note-holders under free banking in our four states at \$1.6 million with a range of between \$1.4 million and \$2.1 million. The breakdown by states is as follows: New York, \$597 thousand with a range of between \$496 thousand and \$654 thousand; Wisconsin, \$503 thousand; Indiana, \$374 thousand with a range of between \$220 thousand and \$799 thousand; and Minnesota, \$165 thousand with a range of between \$147 thousand and \$165 thousand. These estimated losses are slightly higher than those presented by Rockoff (1974, p. 150). However, since he only presents estimated losses through 1860, his totals do not include Wisconsin. Nonetheless, our estimates taken in conjunction with Rockoff's cast doubt on the claims that losses to free bank noteholders in individual states may have run into the millions of dollars.⁷ In-

stead, such claims seem to implicitly assume that all notes of failed banks were worthless, which was obviously not true.⁸

In Table 5 (col. 5), we present the average loss per dollar for banks that failed. These losses are derived by dividing the total losses (col. 1) by the total circulation of the failed banks. Thus, column 5 is an estimate of the loss that individual noteholders could expect if they held a note of a bank that failed.

In our four states, this expected loss was the smallest in Indiana, ranging between 11 and 15 cents on the dollar. The expected loss in New York was approximately 26 cents on the dollar. The expected losses in Wisconsin

and so far copies have not been located. Nevertheless, we did find a bank commissioner report dated January 18, 1839, that contains information on over 20 of Michigan's free banks then being liquidated. The three commissioners writing the report were very confident that all but 2 of the free banks had assets more than sufficient to pay their noteholders. (The two exceptions were the Bank of Washtenaw and the Farmers' and Mechanics' Bank of Pontiac.) Thus, the losses sustained by holders of the notes of Michigan's free banks also appear to have been overstated.

⁸We have considered only the losses sustained by noteholders not only for the reason given in fn. 2, but also because our data do not permit calculation of the losses sustained by depositors or shareholders. Further, it should be noted that our loss estimates ignore any delay or inconvenience suffered by individuals in redeeming their notes at the state auditor.

⁷We hoped to get similar data for Michigan, since it is considered to have had the worst experience with free banking. Michigan's bank commissioner records for the Free Banking Era, however, were destroyed in a fire,

and Minnesota were 24 and 71 cents on the dollar, respectively.

These results present an interesting contrast between New York and Indiana. Total losses to noteholders in New York came from a small percentage of failures involving a substantial loss on each dollar of the failed bank's outstanding circulation. Total losses to noteholders in Indiana, however, came from a larger percentage of failures involving much smaller losses on each dollar of circulation.

III. Summary and Conclusion

In this paper we have presented extensive quantitative evidence on the Free Banking Era. We found that each of the four states we examined had a significant number of problem banks and that the experience varied considerably among the states. We also found that many free banks in our four states did not go out of business; and of those that did, many still redeemed their notes at par. Further, we found that most free banks existed for more than five years and that total losses to noteholders have been significantly overstated.

Our preliminary conclusion from this evidence is that it is misleading to characterize the overall free banking experience as a failure of *laissez-faire* banking. However, we also recognize that further work is needed before this period can be properly judged. We would also like to suggest that this future research address the following questions raised by our new evidence. Were the problems with free banks caused by some inherent instability in the banking business, or can they be explained by the laws and regulations that governed free bank activities? Was there enough variation in these laws to explain the different experiences among free bank states, or can the differences be explained by special characteristics of the states themselves? And most importantly, what implications can be drawn from the Free Banking Era about banking deregulation today?

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