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An Examination of Illinois Free Banks: Bank Ownership, Operations, and Free Bank Failures

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Abstract

This article re-examines Illinois free banking from a new perspective: ownership structure. The claim that ownership influenced banking activity and noteholder losses is analyzed, and it is shown that ownership did not have a major impact on asset allocation and losses. Only Chicago residents who owned banks elsewhere appear to have used the banks for their interests. They neither issued loans to borrowers other than themselves or accepted deposits. Private bankers used free banks as a source of banknotes. A large proportion of the free banks had overlapping ownership, resulting in specie minimization. Private bankers, whether local or from Chicago, and local owners were more likely to operate as traditional banks. All free banks were impacted by the 1853 change in the tax code, leading to fewer loans, more loans to stockholders, and more deposits in other banks. Free banks owned by Chicago private bankers generally closed without noteholders suffering losses. For closed banks owned by other ownership groups noteholder losses depended on the nature of the bonds held by the bank.

JEL Classifications: N2.

Keywords: Free Banking; Bank Ownership; Bank Failures; Private Bankers; Illinois.

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Introduction

The antebellum banking era was one of the more colorful eras of banking history. Each state designed its regulatory schemes from tightly controlled limited-entry charter banking to loosely controlled easy-entry free banking. The ultimate goal of these systems was to provide the public with a safe and stable source of credit, a place of savings, and a supply of inside money (banknotes).[1] The state experiments had mixed results for performance and market stability (John Knox 1903). Recently most of the focus of historians has been on reexamining the conventional belief that the deregulated free banking system was a period of wildcat banking and instability. While market instability has been linked to a defect in the law, the notion that unscrupulous owners freely entered and caused chaos has not been examined.

The Illinois free banking era is a case study of how a system can go from a stellar example of stability—only two failures in eight years that experienced two banking crises—to a system of wildcat bankers where over 90 banks failed in less than a year. The Illinois legislature issued a report on the failure of the banking system and placed the blame on ownership:

> … the business of banking has gone in many cases into the hands of irresponsible and non-resident persons, who, having no object or interest, except to get their notes into circulation and leave the bill holders to take care of them, have located their banks in remote and inaccessible places, where no legitimate business can be done or is expected to be done, and thus the country has become flooded with what is known as "wildcat" currency … (*Illinois State Journal* 1861a)

The perception of "irresponsible and non-resident persons" as issuers of "wildcat currency" has become endemic to issuing charters in today's banking market. The quality of ownership is the foundation of a stable bank. Archive data on Illinois free bank ownership allow us to examine the intersection of ownership, operational performance, and bank failures, and to evaluate the claim that ownership is critical to banking success. The archival data provide us the name and residency of each stockholder and the location of the bank. Having matched these names with directories of private bankers, we can classify ownership into several groups: local, non-local, private banker, etc. Each bank's financial report and bond portfolio is matched with ownership to assess operational performance. Since owners are placed in a regulatory environment, we also examined if ownership types behaved differently due to the regulations.

A Brief Review of Free Banking: Failures, Structure, and Operations

Hugh Rockoff (1974) initiated the reexamination of the free banking era and the causes of wildcat banking. He focused his attention on the bond-backed banknote requirement enacted by various states. Free bankers would receive banknotes from the state based on the securities their bank deposited with the state. Banknote holders had first lien rights to these securities if the bank would fail. Rockoff argued that when states issued banknotes in an amount greater than the market value of the securities deposited, it would open the door to wildcat banking. Owners could take a loan, spend the banknotes, and allow the bank to fail. Owners would profit from the difference between banknotes received and the market value of the investment. Since the bank was required to redeem its banknotes in specie (gold or silver

[1] A review of a cross-section of antebellum banking state regulations can be found in Andrew Economopoulos (1986). Howard Bodenhorn (2000) is one of the more recent reviews of the antebellum banking period including the goals of banking policy.

coin), the wildcat banker had to maintain circulation long enough to spend the banknotes. This could be accomplished by establishing banks wherever the wildcats roamed.

Subsequent research (Arthur Rolnick and Warren Weber 1983 and 1984; Economopoulos 1988; Ifakar Hasan and Gerald Dywer 1994) challenged the Rockoff argument and argued that failures were not caused by a laissez-faire system and unscrupulous owners, but external shocks arising from falling bond prices. When there was a significant drop in bond prices, banknote holders rushed to redeem their notes, thereby forcing the bank to close. The evidence was clear that the bond-backed banknote requirement was ultimately the catalyst of free bank failures. The free banking system established, in general, a stable market except for when the system experienced an external shock of falling bond prices.

While the macro shock was the catalyst, researchers delved deeper into the micro aspects of bank failures. Two lines of research examine the management of the free banks and the market structure. Dwyer and Rik W. Hafer (2001), Matthew Jaremski (2010), and Economopoulos, Scott Deacle, and Scott Clayman (2017) examined whether owners managed their asset portfolios to mitigate loss. Dwyer and Hafer, and Jaremski found that the asset allocation was critical to the degree of loss that banknote holders faced while Economopoulos, Deacle, and Clayman found that owners adjusted portfolios based on expected risks, and, in general, maintained a reserve sufficient to meet unexpected falls in prices. Some researchers examined market structure regulations and noteholder losses. Charles Calomiris (1990) compared the experiences of unit-branch free banking states with branch-banking states and found that branch-banking states were better able to withstand financial crises. Branched banks were able to coordinate behavior and coinsure each other. While branch systems appeared to be successful, these states limited the number of banks in the market. Lawrence Schweikart's (1987) analysis of southern branch-banking systems found greater stability, but the banking systems were insufficient to serve the public. Schweikart (1987) and Bodenhorn (1997) contend that the void in the market from restrictive regulations was filled by private bankers.[2]

Ownership and Operational Performance

The research suggests that the experience of an antebellum state banking system depended upon the operational and structural regulations, and owners' portfolio choices. This paper takes the research one step further by examining the ownership composition to determine if certain ownership compositions influenced bank operations and banknote losses. The Illinois case study allows us to examine not only operational and banknote loss differences, but also market structure. While Illinois' free banking system was a traditional unit-branch system, the ownership data suggest considerable overlap across the unit banks. Most free banks were unit banks, but over a third of the free banks had overlapping ownership. This variation in ownership will allow us to examine if these overlapping connections altered operational decisions.

The neoclassical theory of ownership argues that owners will allocate resources to maximize profits, but, with the rise of corporations, with the issue of whose interests are maximized, with agents running the operations for the principals (Michael Jensen and William Meckling 1976). For some free banking systems, like Connecticut, the agent-principal problem may have been a concern since they required a minimum of twelve owners to start a bank. In Illinois, there were no such restrictions, and if there was an agent-principal problem, it would

[2] There is extensive research on the role of private bankers in the antebellum period (see Bodenhorn 1997, John James 1978, Jane Knodell 2006, and Richard Sylla 1976). They could do almost any banking activity except issue banknotes. They were also subject to unlimited liability. There is, however, little analysis on their failure rates.

have been minor since over 90 percent of Illinois banks had four owners or fewer. The small, tight ownership group would have operated the bank to meet their interests under the regulatory constraints they faced.

Regulatory Constraints and Asset Allocation

Regulatory constraints influenced the asset allocation governing the free bank. Many of the regulations placed on free banks attempted to manage the risks associated with the issuance of banknotes. The key regulations included the issue of bond-backed banknotes, minimum capital requirements, the double-liability of owners, the call provision, and the immediate redemption of banknotes into specie. If a bank failed to redeem a banknote into specie upon demand, it would result in the forfeiture of its charter, and it would be placed into liquidation. The free banks also faced a usury ceiling on loans and discounts and a tax on loans and discounts.[3]

These regulations altered the ownership's asset allocation choices. To start a free bank in Illinois, owners were required to have a minimum capital of $50,000 which was to be in the form of state bonds. Owners were also subject to double liability (i.e. they could be required to contribute an additional amount up to their initial investment to cover the debts of the bank). Banknote holders were to receive first lien rights to the bank and stockholder's property. Bodenhorn (2015), and Henry Hansmann and Reiner Kraakman (2000) found double-liability banking systems are associated with concentrated ownership. They argue creditors were able to effectively monitor owners' non-bank wealth with fewer owners. Bodenhorn (2015) also found that in states that had double-liability provisions owners were willing to take on higher risk as they viewed their personal capital as a part of their equity contribution to the bank.

The most restrictive regulatory constraint was the bond-backed banknotes rule. Illinois free banks allowed six percent coupon bonds of any state to be collateral for their banknotes. The Illinois Auditor of Public Accounts (hereafter simply "the auditor") would issue banknotes equal to the six-month average of the bond's market value in New York City (Illinois Laws 1851). In 1857, this provision was amended to 90 percent of the 6-month average.[4] When the market value of the collateral bonds became less than the face value of the notes issued the state would issue a "call" on banks to deposit more security or to return banknotes. Banks had to comply with the call in a period established by the bank commissioners. Given the cyclical nature of bond prices, the public generally expected that prices would return to normal levels before the grace period was over.[5] The grace period may have influenced owners to hold higher-risk state bonds.

While the bond-backed banknote insured the ultimate safety of the noteholder, the specie-upon-demand requirement was to meet daily liquidity needs. It also motivated owners to find ways to maintain circulation and minimize specie reserves. Locating your bank far from a major city where many of the banknotes circulated would raise redemption costs for the noteholder. While distance may have minimized specie reserves and redemption, owners faced banknote brokers who would collect notes and submit them for redemption. If the bank failed to honor the request, the banknote holder would lodge a "protest" with the auditor. In

[3] For a complete review of the antebellum banking structures see Bodenhorn (2002).

[4] Banks who submitted bonds prior to the amendment did not have to comply with the 90 percent rule.

[5] The press would encourage long grace periods and noteholders to hold onto their banknotes because they argued that prices would return before the end of the grace period (*Chicago Daily Tribune* 1860b).

Illinois, the bank would have no grace period to comply and would have to pay a 12.5 percent interest penalty.[6]

Another way to minimize redemption and broker redemptions of rural free banks was to establish a partnership with a city bank. These partnerships were mutually beneficial; they provided a source of currency for the city bank and a means to maintain the rural bank's circulation.

Two regulations made these partnerships even more advantageous to Illinois free bank owners: an interest rate ceiling on loans and discounts of seven percent until 1857 and ten percent thereafter, and the tax on loans and discounts. These partnerships were obvious to the bank commissioners. In their 1854 report, they observed that the agent, most likely a private banker, would use the notes to lend at the current market rate which at times was greater than the usury rate of seven percent (Illinois Bank Commissioners 1855). These arrangements not only helped reduce the redemption rates of banknotes, but the bankers received higher returns (Illinois Bank Commissioners 1854).

Illinois enacted a sweeping Revenue Act in 1853. Although the new tax law made clear what was taxed, the banking law provided a loophole. The 1855 Bank Commissioners' report contends that the banking law made a distinction between taxes levied on the corporation and taxes levied on the stockholder. Consequently the "notes instead of being used by the bank in its corporate name (for loans and discounts), … (were) used by private brokers". Thus, the free banks avoided taxes and the interest rate ceiling by choosing to make loans to owners and/or make deposits in other banks rather than loans and discounts. The Revenue Act effectively redirected the allocation of free bank assets.

Other Incentives for Owners and Asset Allocation

Although the tax on loans and discounts was one motivation to allocate assets to loans to owners, there was a natural incentive for some owners to hypothecate their stocks for a loan.[7] Bodenhorn (2002) notes that antebellum bankers adopted a real-bills loan policy in which loans were short-term for goods in process.[8] Naomi Lamoreaux's (1994) insider trading study of New England argues that wealthy manufactures and merchants with heavy working capital demands led individuals to establish banks to guarantee a source of short-term credit. For a wealthy Illinois resident, opening a bank and receiving a loan pledged by the stock of the bank could avoid the limitations and costs associated with a loan from a local bank.[9]

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[6] Some free banking states gave bankers a period to comply. Having no grace period may have led some bankers to use a broker to try to break a "wildcat" bank. The bank honored the redemption request by counting out nickels which took more than one day. The broker lodged a protest that the bank did not honor the request upon demand (*The Press and Tribune* 1860). There were some protests of non-redemption in 1859 initiated by private bankers from Chicago, but the protests were eventually honored by the banks (*Illinois State Journal* 1859). These protests also shaped the banking market in Chicago. Alfred Andreas (1889) gives the account of the currency wars between free banks and private banks. He argues that these wars motivated many free banks to close in Chicago.

[7] Bodenhorn (2000) provided a detailed discussion of hypothecation, also known as stock notes. Most of the regulations preventing hypothecation were ineffective.

[8] The *Illinois State Journal* published the financial statements of banks within the city of Springfield. Two of the statements included the maturity profiles of their loans and discounts. For one bank all loans matured less than a year, many of them six months or less (*Illinois State Journal* 1854b), while at the second bank all loans were for one year (*Illinois State Journal* 1853)

[9] The economics of opening a bank versus receiving a bank loan center on the costs of operating the free bank. If the operating costs exceed the rate on the bank loan, opening a bank would not make sense. At a rate of seven percent, the maximum allowed by law, a $50,000 loan would cost $3500. For a small bank, the cost of personnel (president and cashier) would range from $1350 to $2600, plus specie and operational costs (Knodell 2006, 16).

One incentive promoted by the popular press suggests that individuals would set up free banks to arbitrage price differentials between Chicago and New York City. The *Chicago Daily Tribune* (1861a) reports an owner who borrowed bonds from a New York City broker, opened an Illinois free bank, deposited bonds, and received banknotes. The owner loaned the notes to himself, purchased wheat in Chicago, sold the wheat in New York, and paid off the broker. The article made clear with disdain that the law allowed such non-traditional activity and gave the impression that the bank was a one-and-done operation. However, none of the banks that opened in that year (1860) closed their doors until the bond crisis of 1861.

Deposits in other banks were one means of servicing the local clientele who required transactions at distant locations, and owners would allocate resources to meet this need. Although some banks would offer interest on deposits, the interest rate would have to be greater than the after-tax rate on loans and discounts for them to allocate assets to deposits in other banks.[10] The deposit in other banks could be mutually beneficial if the free bank and the private bank had the same owners. The marginal cost of establishing a free bank was low, reputation was established, and it gave the private bank a legal and secured note issue.[11] Private banks had already established specie reserves, deposits, and loans and discounts; the free bank ownership allowed them to issue banknotes and leverage their reputation. It is no surprise that the first eleven free banks in Chicago, and four non-Chicago free banks within the first two years, were established by private bankers. Thus, private bank ownership was likely to have a majority of the free bank assets in deposits in other banks.

Ownership Composition, Reputation, and Asset Allocation

In Illinois there was strong public opinion about "legitimate banking":

> … the design of the Institution (Farmers and Mechanic's Bank), as we learn, like that of all others, is to make money, at the same time subserve the interests of farmers and mechanics of the city and neighborhood. It is designed to do a legitimate banking business, loan its own paper, and at the rates of interest authorized by law. It is to be controlled by a Board of Directors, made up of its own citizens … We like to see capital brought into the State–as also to see capital collected and made available in advancing the business in the county. (*Illinois State Journal* 1852)

"Legitimate banking" is about "its own citizen" owners who serve the community's needs and who advance the business community.[12] Out-of-state capital was accepted as long as it was under local control. Embedded in this traditional view of banking is that one of the controlling factors is the reputation of the local ownership. Information on the quality of the institution is known with certainty.

Reputation is not limited to local ownership; other ownership groups have been able to leverage reputation. Before the free banking act, banknote issued by private bankers was illegal (George W. Dowrie 1913, 130). The demand for a medium of exchange was met by private bankers by creating transferable, denominated certificates of deposits. One of these bankers, George Smith, a leading Chicago private banker, issued $1, $3, and $5 "certificates

[10] There were a few private bankers that advertised their interest rate on deposits. New York City bankers, after the 1857 panic, agreed to no longer pay interest to depositors who wanted immediate access to their money.

[11] It is interesting to note that most free bank names were not named after the private bank. It is clear, however, that the public knew the owners of the free banks. The Grayville Bank of Grayville Illinois was reported in the *The Press and Tribune* as owned by the private bankers, the Clark Brothers of St. Louis (*The Press and Tribune* 1859).

[12] This notion of "legitimate banking" carries on to today. The Community Reinvestment Act is a current example of how policy makers view their responsibilities to the community.

of deposits" from the Wisconsin Marine and Fire Insurance Company (WMFIC). The $3 certificate read that the cashier of the Smith bank "has deposited with this institution three dollars which will be paid on demand to their order hereon" (Knodell 2006, 11). The WMFIC had an office in Chicago that would accept and redeem the certificates. Three other Chicago private financial institutions also issued transferable certificates of deposits (Dan Daily 1934). The reputation of these institutions made their certificates of deposits so popular that by 1851 it was estimated that there was $1.47 million in circulation (Andreas 1889). The wide acceptance of the certificates was clear evidence that reputation was a reason for the circulation. Even their critics recognized the importance of reputation:[13]

> … a list of prominent operators of the Shinplaster [certificates of deposit and out-of-state banknotes] … names reputed "too rich" to be damaged by the press … flood the country with their millions and half-millions of unauthorized and unsecured notes. It was because George Smith and Page & Bacon have *the reputation of strength and wealth* … (*New York Daily Times* 1853; emphasis in original)

Reputation was a signal to the banknote holder about the quality of the issuer (Gary Gorton 1996; Michael Haupert 1994; Jaremski 2011). There were several signals for reputation: the financial assets held by the bank, the quality of the bond portfolio, and name brand recognition. The market evaluates these signals through the discounting of the banknote. Details of the assets and bond portfolios are available to the public. Brand recognition develops from the experience of the noteholder. The age of the institution is one critical element of building a brand. Like Haupert, Economopoulos (1994) found that the older chartered banks of New York were preferred by banknote holders. Name-brand recognition can also come from the owners themselves who have standing in the community. The banknotes themselves can inform noteholders who are the officers of the bank. Each banknote would have the bank's name, and the names and personal pledges of the President and Cashier (Illinois Laws 1851). The officers' names could potentially have some cache in the market. In the banknote market, private bankers would have some name brand recognition since the names of private banking firms were typically the names of the owners.[14]

In summary, ownership composition could have a significant impact on how the bank operated. Local ownership would respond to the local community doing traditional ("legitimate") banking. Non-local ownership would utilize the bank to maximize their interests. Private bankers that established free banks had access to a supply of banknotes and could leverage their name recognition. If the private banker established a free bank outside of their location, efficiency could be gained similar to a branch bank without restrictions.

Bank Ownership, Bank Activity, and Free Bank Failures—The Evidence

From the above discussion, it is expected that different groups of owners will have different interests. Private bankers would operate a free bank differently than local resident owners. An examination of ownership composition can determine if the composition leads to different asset allocations and greater losses to noteholders among the free banks.

Data were collected from the Illinois Auditor of Public Accounts (1851-1862). The certificates recorded there include the date of filing, the name of the bank and location, the names and residency of the shareholders, and the number of shares held. The names of shareholders were cross-checked against directories of private bankers published in various publications (*Banker's Magazine* 1860a; Homans 1855, 1857). Private bankers at the time

[13] Lawrence White (1984) points out that English banks with poor reputations for redemption could not sustain themselves.

[14] Sixty percent of free banks with private banker ownership had their names on the banknotes.

used their names for their establishment. The financial conditions of the banks were collected from the Illinois Bank Commissioner's reports that were published in the US Congressional serial set. Two hundred certificates of operations were filed with the auditor between 1851-1862. One hundred forty-one banks operated before 1861, and only 135 filed a financial report. Some banks filed a certificate, submitted bonds to the auditor for banknotes, but never submitted a financial report.[15]

What follows is an overview of bank ownership and bank operations. A decomposition of the bank ownership data and banking activity provides a deeper understanding of the free banking market as it relates to ownership. This is followed by a more rigorous examination of ownership's impact on banking activity and failures.

Overview of Bank Ownership

Owners were categorized into the following groups: Chicago Private Bankers, Non-Chicago Private Bankers, Out-of-State Residents, Local Residents, Chicago Residents (of non-Chicago banks), All Other Residents (Non-Local).[16] The groupings were set up according to the expected interests of the owners. The private bankers' interest is to have a direct source of banknotes and to leverage their reputation. Local residents are interested in serving their local demands and maintaining their reputation in their communities. Chicago residents opening banks outside of Chicago are interested in their business affairs. Out-of-state ownership would have a variety of interests, but contemporaries believed that "foreigners" were interested in draining local resources. Ownership composition, in Table 1, is divided into banks that were fully owned by a group, and banks that had at least one private banker or out-of-state owner.

The data indicate that most of the banks were owned by a small group of individuals: 45 banks (33 percent) of the banks had sole proprietors, and 59 percent of the banks had between two to four owners. Of the 44 banks which had two owners 20 of the partnerships were owned by individuals from the same background. All total, 65 banks of the 135 were controlled by a particular group. The remaining banks (70) had a diversity of ownership, but private bankers were heavily invested in these banks. Thirty of the 70 banks had at least one private banker as owner, and 22 of the banks had at least one out-of-state owner.[17] Overall, private bankers owned or partially owned 40 banks while 44 banks received capital from out-of-state investors. Only 21 (16 percent) were locally owned and operated.

The data were subdivided into shareholders who had owned more than one free bank and shareholders who invested in only one bank. Overlapping ownership could give rise to cooperation and coordination among the banks. Banks with a small ownership group with an overlapping owner are more likely to cooperate than with many owners.[18] Fifty-four individuals held ownership in more than one bank (see Table 2). Twenty-four of these individuals were private bankers. Almost 61 percent (83) of the banks that operated in Illinois had owners who had owned other banks at some point in time.

[15] Fifty-nine certificates were filed but no bonds or reports were submitted, and there is no record of operations.

[16] Seventeen of the eighteen Non-Chicago private bankers established banks in their own locality. All Other Residents are Illinois residents who were not local, not Chicago, and not a private banker.

[17] Shares of ownership were not available and how much control the private bankers enjoyed can be debated. However, if a private banker were involved in the establishment of a bank, you would not expect him to have a minority interest.

[18] Although control is a function of numbers of shareholders there are cases where the owner/office holder may influence the degree of cooperation. One such case was Hiram Sandford who established two banks in 1856: Citizen Bank of Mt. Carmel and Edgar County Bank. He was one of four shareholders in Citizens Bank and one of 48 other shareholders in Edgar County. However, he was the President of Edgar County.

Table 1
Free Bank Ownership Composition

		Number of Banks under Full Control of a Group					Number of Banks with Diverse Ownership (One Group on Board)		
Number of Owners	Number of Banks	Chicago Private Bankers	Non-Chicago Private Bankers	Out-of-State Residents	Local Residents	Chicago Residents	Chicago Private Banker	Non-Chicago Private Banker	Out-of-State Residents
1	45	3	4	13	10	11	0	0	0
2	44	3	0	5	10	2	5	4	6
3	24	0	0	2	1	0	4	7	11
4	12	0	0	1	0	0	3	2	5
>4	10	0	0	0	0	0	4	1	0
Total	135	6	4	21	21	13	16	14	22

Sources: Illinois Auditor of Public Accounts 1851-1860, *Banker's Magazine* (1860a), Homans (1855, 1857).
Note: There is a third group of banks (out of the total of 135) that is not reported separately—no-control and no-special individual.

Table 2
Overlapping Ownership Summary

Number of Individuals with Ownership in:	
More than One Bank	54
Two Banks	36
Three Banks	9
Number of Private Bankers	24
Average Banks per Individual	2.6
Number of Different Banks	83
Filed after 1858	31
Average Years of Overlap (based on filing date)	2.0
Fully Controlled by Ownership Group	42

Source: Illinois Auditor of Public Accounts 1851-1860

In most cases, an existing owner opened a second bank in the same year or within the next two years. For the eight years under review, the average number of years of free banks operating simultaneously under the same ownership was two years. The short overlap average is due in part to the timing of entry. The number of banks more than doubled after 1858. Over 35 percent of the banks with overlapping ownership filed certificates of operations after 1858 and filed their first report in 1860. In many of the cases (42), these owners had full control of the banks they owned and operated concurrently.

In two instances the ownership did not overlap. The DuPage County Bank, located in Naperville, was established by several Chicago private bankers and local residents. Two years later DuPage County Bank closed and was reopened as the Bank of Naperville. The local press called the new Bank of Naperville a merger (*Illinois State Journal* 1854a). Seven of the ten DuPage shareholders opened the Bank of Naperville. A second owner, private banker J.R. Hinkley, opened the Southern Bank of Illinois in Belleville, and after two years he moved the bank to a different location under the same name but a new certificate of operations.

Ownership and Banking Activity

Ownership composition is expected to have an impact on banking activity. Specifically, certain ownership types may allocate resources differently:

- Local Ownership will primarily focus on local needs and follow the traditional form of banking: issue loans, accept deposits, issue banknotes, and hold specie reserves to maintain reputation.
- Private bankers will have a greater interest in leveraging their operations by issuing banknotes, and making deposits in other banks, with less reliance on loans and discounts or loans to owners. Specie reserves would be held to maintain reputation.
- Non-local Ownership (Chicago Residents, Illinois, and Out-of-State) will serve their personal interests which could include traditional banking but could also include using the bank for their own business interests. These individuals would more likely make loans to themselves, and issue banknotes. Their interest in the other banking activities is to maintain banknote circulation.

Table 3

The Financial Statement of the Average Illinois Free Bank for Each Ownership Group and Selective Bank Activity

	Chicago Private Banker		Non-Chicago Private Banker		Out-of-State Owners		Local Owners		Chicago Residents		Non-Local Owners	
Panel A. Average Balance Sheets for Ownership Groups												
	$	%	$	%	$	%	$	%	$	%	$	%
Bonds	122,445	52	81,164	51	163,452	71	80,796	43	158,615	69	176,925	52
Loans to Owners	21,689	9	15,380	10	20,495	9	23,457	12	22,094	10	47,955	14
Loans and Discounts	6,780	3	3,568	2	3,967	2	14,755	8	0	0	12,817	4
Deposits in Other Banks	58,739	25	33.802	21	33,706	14	40,742	22	41,551	18	87,154	26
Specie	10,488	4	11,517	7	2,866	1	11,655	6	4,025	2	4,899	1
Other*	15,311	7	14,871	9	6,723	3	17,446	9	3,202	1	11,528	3
Total Assets	235,452	100	160,302	100	231,209	100	188,851	100	229,487	100	341,278	100
Deposits	16,932	7	25,345	16	6,065	3	30,134	16	104	0	11,389	3
Banknotes	108,797	46	71,358	44	151,947	65	69,104	37	147,375	64	165,725	49
Other*	16,394	7	4,413	3	-991	0	21,577	11	557	0	6,808	2
Capital	93,329	40	59,186	37	74,188	32	68,036	36	81,451	36	157,356	46
Total Liabilities and Capital	235,452	100	160,302	100	231,209	100	188,851	100	229,487	100	341,278	100
No. of balance sheets	86		76		47		59		36		39	
Number of Banks	30		26		23		19		19		18	
Panel B. Selective Banking Activity of Ownership Groups (Percentage of Group Undertaking Specified Activity)												
Issued Loans and Discounts	14%		16%		21%		42%		0%		25%	
Only Made:												
Loans to Owners	14%		28%		8%		10%		28%		31%	
Deposits in Other Banks	60%		55%		44%		30%		69%		22%	
Accepted Deposits	37%		41%		23%		64%		3%		31%	
Zero Specie Reserves	11%		11%		18%		18%		41%		25%	

Sources: Illinois Bank Commissioners (1854, 1855), Illinois State Journal (1855, 1861b), US Congressional Serial Set.

Notes: Average based on financial statements between 1854 and 1860. *Other represents all other accounts to balance the statement. In Panel B % is the percent of total assets.

An overview of ownership and banking activity is presented in Table 3, which presents the typical balance sheet for the six types of owners during the 1852-1860 period (Panel A).[19] It is clear that certain ownership types managed the operations differently. Chicago residents owning banks outside of Chicago and Out-of-State owners were among the lowest in issuing loans and discounts, held the lowest specie reserves, and were the lowest in taking deposits. These two ownership groups also had one of the highest holdings of bonds as an earning asset. At the other end was local ownership. They issued more loans and accepted more deposits than the other ownership groups. Around 40 percent of the assets of banks with non-local owners were made up of loans to owners and deposits in other banks. While the averages give an overview of the general choices of bank owners, they do not capture the distribution with the groups. We analyzed five aspects of banking participation: banks that issued loans and discounts, banks that exclusively issued loans to owners or made deposits in other banks, banks that accepted deposits, and banks that held no specie reserves.[20] These aspects are highlighted in Panel B in Table 3. There is a clear contrast between Chicago residents who owned a free bank and local ownership. Forty-two percent of banks with local owners reported issuing loans and discounts while banks owned by Chicago residents issued none. Instead, close to 70 percent of banks owned by Chicago residents exclusively used deposits at other banks as their earning asset. Most Chicago and Non-Chicago bankers exclusively used deposits in other banks as their sole earning asset. Most ownership groups relied on banknotes as their source of funds; more than 60 percent of banks with local owners received deposits as a source of funding.

Asset Allocation

The asset allocation propensities of the ownership groups are confirmed in the linear probability model in Table 4. The model's dependent variables are banks that issued no loans and discounts, banks that only held deposits in other banks, and banks that only made loans to owners. The dichotomous dependent variable represents the strong preferences of owners in their asset allocation decisions. Included as independent variables are ownership group dummies with local owners as the reference group, banks with overlapping ownership, the number of owners, and the age of the institution. Age is included as a proxy for experience. Time dummies accounted for changes in the market over time. The reference year for the Time dummies is 1853—the year of the enactment of the Revenue Act. After 1853, loans and discounts were taxed.

Three ownership groups were more likely than local owners to issue no loans: private bankers, Chicago bankers and Chicago residents. It was expected that private bankers would less likely issue loans and discounts through the free bank. Correspondingly, these groups

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[19] The banks with diverse ownership were categorized under the criteria of the dominant interests of the owners. Any diverse ownership that had a private banker, the bank would be classified as a Chicago and Non-Chicago private bank. If there was no private banker but local ownership, the bank would be classified as Local. If there was no private banker or local resident, but there was a Chicago resident, the bank would be categorized as a Chicago Resident. If none of the groups mentioned are a part of ownership, and in-state non-local owners had partial ownership the bank would be classified as Non-Local.

[20] One possible explanation for the boldness of the free bankers was the pending court case on the redemption of banknotes. Reaper's Bank was charged by a noteholder that they did not redeem their notes upon demand in 1859. Reaper's did honor the request by paying out in small coins. This payout took several days. The noteholder protested claiming it was not on demand. The bank claimed they were following the 1857 amended law. The noteholder went to court, and in October of 1860 the Illinois Supreme Court ruled in favor of the noteholder (*Banker's Magazine*, 1860b). Some have suggested that this was common practice.

were more likely, except Chicago private bankers operating in Chicago, to have deposits in other banks.

Table 4
Linear Probability Model of Owners' Asset Allocation Decisions (1853-1860)

	No Loans and Discounts	Owner Loans Only	Deposit in Other Banks Only
Variable	Estimate t Value*	Estimate t Value*	Estimate t Value*
Intercept	**0.451** **4.46**	0.081 1.13	**0.269** **2.09**
Chicago Banker Outside	**0.182** **2.64**	0.059 1.03	**0.210** **2.33**
Chicago Banker in City	**0.163** **1.74**	-0.020 -0.27	0.070 0.57
Chicago Resident	**0.285** **3.48**	**0.194** **2.49**	**0.251** **2.33**
Non-Chicago Banker	**0.257** **4.00**	0.047 0.93	**0.278** **3.31**
Out-of-State	0.086 1.17	-0.055 -1.00	0.150 1.54
Non-Local Residents	0.051 0.68	**0.212** **3.04**	-0.092 -0.974
Multi-Bank Owners	0.256 0.55	0.057 1.52	0.004 0.07
D54	**0.256** **2.50**	**0.253** **3.03**	0.000 0.07
D56	**0.354** **3.51**	0.109 1.55	0.137 1.06
D58	**0.300** **3.35**	0.061 1.03	0.142 1.25
D60	**0.333** **3.84**	**0.115** **1.99**	0.128 1.17
Number of Owners	**-0.012** **-4.16**	**-0.003** **-1.77**	-0.004 -1.60
Age of Bank	**-0.0138** **-1.82**	**-0.017** **-2.84**	-0.007 -0.74
Pseudo R-Squared	82.2%	83.1%	65.6%
N	343	328	343

Notes: **Bold** indicates statistically significant at least at the 10 percent level. * indicates White Robust standard errors used.

Surprisingly, out-of-state bankers were no different from local owners. Most of the ownership groups had the same propensity to issue exclusively loans to owners, except for Chicago residents and non-local owners. These two ownership groups were expected to utilize the free bank for their own purposes. Older banks and banks with more owners were less likely to allocate assets to one particular asset class. Finally, as expected, the time dummies indicate that the probability of issuing no loans and discounts after the Revenue Act of 1853 increased between 25 percent and 33 percent. The law also prompted an increase in loans to owners the following year. There was a significant increase in the probability of free banks making loans to owners in 1860. This increase could have reflected the willingness of banks to take advantage of the price differentials in the commodities market.

Other Banking Activity: Liability Management

Reputation may motivate ownership to manage their liabilities and specie reserves. OLS regression models examined the specie ratio (specie as a percent of banknotes), the reserve ratio (specie as a percent of banknotes plus deposits), deposit ratio (deposits as a percent of total assets), and banknote ratio (banknotes as a percent of total assets) as the dependent variables. The six ownership groups identified above were included along with age as a proxy for experience in liability management. Year dummies were included to control for yearly differences with 1853 becoming the benchmark year.[21] To examine the influence of overlapping ownership on liability management, two dummy variables were used. First is a general dummy variable as denoted above; if an owner owned multiple banks, the bank received one, otherwise a zero. Since private bankers may have used the free banks as a conduit for banknotes and reserves, a dummy variable was included for this subgroup of overlapping owners.

Ownership groups showed different propensities for holding reserves and managing their liabilities (see Table 5). Relative to the local owner, the non-Chicago banker maintained the same level of reserves to back their banknotes and deposits, while non-local owners–Chicago private bankers owning banks outside the city, out-of-state, and Chicago residents–generally held fewer specie reserves.

The only ownership group which held more specie reserves was Chicago private bankers operating within Chicago. The higher reserve ratios were typical of city banks. Local ownership appeared to rely more on deposits than banknotes. All ownership groups, except Chicago private bankers within the city, issued more banknotes per dollar of assets than local owners. Chicago private bankers within the city issued about 10 percent less than local owners. This is consistent with the inability of city banks to maintain circulation. Local owners, non-Chicago bankers, and Chicago bankers held the same number of deposits relative to total assets, while the remaining groups held fewer deposits relative to total assets. Chicago private bankers owning free banks outside the city relied on banknotes more than any group (21 percent). Non-local ownership groups relied less on deposits and more on banknotes. Banks with overlapping ownership appear to have some impact on how the free banks managed their reserves and liabilities. Bankers with overlapping ownership owned banks that held fewer specie reserves for banknotes and deposits than local owners. By owning more than one bank, owners could minimize reserves. In an event of a block redemption, the owners could call upon the other bank(s) for specie reserves. The overlapping ownership bank was no different from single ownership banks on the issuing of banknotes or deposits per dollar of assets. However, if one of the overlapping owners was a private banker, (s)he

[21] The year dummies are for the reports available in the analysis. There were no reports in 1855, 1857 and 1859.

would be slightly more conservative by holding slightly more specie reserves to cover both banknotes and deposits than single owners and other multi-bank owners.

Table 5
Comparing Banking Activity and Bank Ownership Groups (1853-1860)

	Specie Ratio	Reserve Ratio	Banknote Ratio	Deposit Ratio
Variable	Estimate t Value	Estimate t Value*	Estimate t Value*	Estimate t Value*
Intercept	**0.311** **2.89**	**0.194** **3.42**	**0.421** **10.71**	**0.070** **1.90**
Chicago Banker Outside	**-0.370** **-2.71**	**-0.132** **-4.13**	**0.212** **3.82**	**-0.093** **-2.17**
Chicago Banker in City	**0.269** **2.72**	**0.254** **4.13**	**-0.097** **-2.30**	0.044 -1.02
Chicago Resident	**-0.190** **-2.20**	**-0.067** **-3.68**	**0.142** **4.59**	**-0.077** **-3.86**
Non-Chicago Banker	-0.045 -0.66	-0.017 -0.70	**0.047** **1.91**	-0.020 -0.75
Out-of-State	**-0.196** **-2.53**	**-0.061** **-3.34**	**0.164** **5.15**	**-0.063** **-3.03**
Non-Local Residents	**-0.217** **-2.70**	**-0.057** **-3.18**	**0.067** **2.53**	**-0.060** **-2.54**
Multi-Bank Owners	**-0.093** **-1.83**	**-0.020** **-1.78**	0.021 1.15	-0.019 -1.23
Multi-Bank Private Bank Owners	0.221 1.59	**0.010** **3.05**	**-0.141** **-2.56**	0.053 1.13
Age	**0.034** **4.26**	0.001 1.48	**-0.018** **-5.55**	**0.019** **5.69**
D54	-0.133 -1.19	-0.046 -0.79	0.031 0.77	0.032 0.78
D56	0.028 0.26	0.016 0.26	-0.010 -0.27	0.006 0.14
D58	**-0.229** **-2.31**	**-0.127** **-2.78**	**0.106** **3.13**	**-0.067** **-2.11**
D60	**-0.216** **-2.27**	**-0.148** **-3.20**	**0.139** **4.33**	**-0.062** **-2.08**
Adjusted R-Squared	19.0%	41.8%	37.6%	25.6%
N	339	339	339	339

Notes: **Bold** indicates statistically significant at least at the 10 percent level. * indicates White Robust standard errors used.

Age is a proxy for experience and reputation and the results indicate that the older banks were more likely to hold more specie reserves to back banknotes, issue fewer banknotes and accept more deposits. The swapping of banknotes for deposits is almost one-to-one as the bank grows older. After 1853 there were no statistical differences between 1853, 1854, and 1856. The Revenue Act had no impact on the issuance of liabilities. Toward the end of the period (1858 to 1860), the time dummies indicate that free banks were expanding banknotes issued per dollar of assets and lowering their deposits per dollar of assets. The net increase was not accompanied by specie reserves as the specie and reserve ratios dropped during this period.

It is clear from Tables 4 and 5 that free banks were less traditional. Banks minimized loans and discounts and made loans to owners or deposits in other banks. Local owners and Chicago banks were more likely to issue loans and discounts, while local bankers and out-of-state owners were more likely to hold deposits in other banks.

Bank Ownership, Closures, and Noteholder Losses

Although the public press railed against the operations of free banks, the critical issue is the losses to noteholders. Free banks closed their doors for two reasons: owners voluntarily ceased operations or by protest when owners failed to redeem banknotes on demand. The various ownership groups may be motivated to uphold their reputation and minimize banknote holder losses by holding higher quality northern bonds or respond to bank commissioners' calls for more securities. Private bankers and local ownerships faced the greatest reputational costs from noteholder losses. These two groups would be more willing to close shop voluntarily and redeem their notes at par or recapitalize to secure banknote holders. Table 6 provides a crosstabs analysis of the type of closure of free banks and ownership groups. Thirty-one of the 135 banks closed voluntarily, about half before the start of the Civil War. Most free banks closed under protest during periods of falling bond prices.[22]

Table 6
Type of Bank Closures and Ownership Group

Type of Closure	Chicago Private Banker	Non-Chicago Banker	Out-of-State Owner	Chicago Residents	Local Owners	Non-Local Owners
Protest	17	19	22	17	12	17
Voluntary (Before 1861)	6	5	0	2	2	1
Voluntary (After 1861)	3	6	1	0	5	0
Total	26	30	23	19	19	18

Sources: Illinois Auditor of Public Accounts 1852-1860, Illinois Bank Commissioner Report (1855), Illinois State Journal (1861b)

Three groups stand out as most likely to voluntarily close operations: Chicago bankers, non-Chicago bankers, and local owners. Together they represented 87 percent of the voluntary closures, and in all cases, they were able to redeem their banknotes at par.

Although these groups dominate the voluntary closures, many of the owners in these groups also closed under protest. An analysis of banknote redemption rates would determine

[22] No banks closed after 1861 due to protests. Banks that survived the 1861 bond crisis, and new banks, closed voluntarily at par when the federal government imposed a tax on state banknotes.

if reputation were significant in how owners responded to protest by minimizing losses to banknote holders. Using the auditor's published redemption rates after the bonds were sold a simple OLS model with robust standard errors was estimated:

$$\text{Redemption Rate}_i = \beta_0 + \beta_{1\text{-}5}\text{Ownership Group} + \beta_{6\text{-}8}\text{Sold54-58}_i + \beta_9\text{DSold8_61} *\%\text{Confed}_i + \beta_{10}\text{DSold10_61}*\%\text{Confed}_i + \beta_{11}\text{DSold11_61}*\%\text{Confed}_i + \beta_{12}\%\text{Confed}_i + \beta_{13}\text{DSold8_61} *\%\text{Border}_i + \beta_{14}\text{DSold10_61}*\%\text{Border}_i + \beta_{15}\text{DSold11_61}*\%\text{Border}_i + \beta_{16}\%\text{Border}_i + \beta_{17}\#\text{ of Owners}_i + \varepsilon_i$$

The model included dummy variables for the ownership groups where the local resident bank was the benchmark, the number of stockholders in the bank, and the date on which the bonds were sold. Also included was the composition of the bond portfolio held by the bank. The portfolio was divided into the percentage of the portfolio that were Confederate bonds and the percentage of the portfolio that were border state bonds. Information on the date bonds sold was not available before 1860. These dummies for years 1854 through 1858 would be for banks that closed, and bonds sold in that year.[23] In 1861, the auditor sold bonds on three dates. An interaction variable was created using the percentage of Confederate and border state bonds (%Confed and %Border) and a dummy for the date the bonds were sold. Bond prices across the board declined after the attack on Fort Sumter in April 1861, but Confederate and border state bond prices dropped significantly more than northern bonds. Thus, the interaction variables will show the impact of selling the bonds on redemption rates at critical points in time in 1861.

The results indicate that noteholders in the free banks were generally secure. The intercept indicates that noteholders could have expected 95 percent of face value for their banknotes. Only one ownership group was statistically significant; Chicago Banks within the city paid their noteholder 98.7 percent of par on average. For all other ownership groups, there was no difference in losses to banknote holders.[24]

The claim of irresponsible owners is not supported by the evidence (see Table 7). Banks with overlapping ownership did not improve the chances of getting a better redemption rate. Banks that closed with Confederate (CONFED) bonds and border (BORDER) state bonds had no statistical impact on noteholder gains or losses before 1861. The general success of the Illinois banking period is evident from the banks that closed before the Civil War. Banks that closed before 1859 had redemption rates about 10 cents higher than previous periods. During the 1861 crisis noteholders lost as much as 69 cents on the dollar depending on when the bonds were sold, and the percentage of bonds held by the bank. The timing of the sale seems to determine the degree of loss faced by the noteholder. In general, the more northern bonds held by the banks the lower the loss to noteholders.

Why were owners willing to take on portfolio risk by holding southern/border bonds? There are two possible reasons. First, as noted above, Bodenhorn argued that the double-liability provision would lead banks to take on more risk. Owners considered their investment of personal wealth as their total investment in the free bank. The expected return on note issue for the riskiest of bonds was no more than 2.4 percent higher than the safest bonds.[25] This premium is reduced in half if an equal amount of non-bank wealth was considered.

[23] There were no closures in 1859 and 1860.

[24] There is weak evidence that ownership groups preferred certain groups of bonds. Out-of-state owners and non-local owners were more likely to own Confederate bonds.

[25] The premium was calculated with the following assumptions: 1. Notes issued equaled 90 percent of the bond price, 2. 100 percent of banknotes were issued at seven percent, and 3. Specie reserves at two percent.

Table 7
Bank Ownership and Redemption Rates of Banknotes

Variable	Parameter Estimate	t Stat	Variable	Parameter Estimate	t Stat
Intercept	0.947	46.8	**SOLD54**	**0.092**	**1.72**
Chicago Banker Outside	0.016	0.84	**SOLD55**	**0.102**	**1.91**
Chicago Banker in City	0.040	2.01	SOLD56	0.066	1.43
Chicago Resident	-0.023	-1.11	**SOLD57**	**0.112**	**1.72**
Non-Chicago Banker	0.024	0.88	SOLD58	0.075	1.56
Out-of-State	-0.027	-1.39	**DSOLD8*%CONFED**	**-0.243**	**-2.95**
Non-Local	0.009	0.42	**DSOLD8*%BORDER**	**-0.302**	**-4.97**
Multi Bank Owner	-0.019	-1.33	**DSOLD10*%CONFED**	**-0.342**	**-3.74**
Number of Owners	**0.000**	**1.69**	**DSOLD10*%BORDER**	**-0.255**	**-1.88**
Border	-0.041	-0.88	**DSOLD11*%CONFED**	**-0.175**	**-1.78**
Confederate	-0.121	-1.60	**DSOLD11*%BORDER**	**-0.688**	**-6.63**
Adjusted R-squared		84.5%	Sample size	134	

Note: **Bold** indicates statistical significance at least at the 10 percent level.

Second, the process of recovery by the receivers could have been time-consuming and may have influenced the owners' decisions. The recovery was initiated by the auditor, and following the law, the auditor submitted the names of banks to the local circuit courts to appoint receivers (*Illinois State Journal* 1861a). We do not know the recovery rates achieved by the receivers. Four months after their appointment the auditor reported to the legislature that his office had not received any funds from them (*Illinois State Journal* 1862). At what point did the legal process of recovering losses damage reputation is unknown, but anecdotal evidence suggests that some owners survived. One Chicago banker, J.Y. Scammon, was preemptive and advertised that he would personally redeem Merchant Bank banknotes at par (*Chicago Daily Tribune* 1861b). Many of the owners who were private bankers continued operations after the failure of their free banks.[26]

[26] The effectiveness of the receivers is not known, but policymakers apparently believed there was value since they included the double-liability provision in the National Banking Act.

Conclusions

The Illinois free banking period was one of the more successful antebellum free banking experiences; only two banks failed to redeem their banknotes at par. The failure of the system from failing bond prices in 1861 led to the claims by public officials that ownership was a contributing factor in banknote holder losses; the free entry system allowed irresponsible and non-resident owners to open shop for "illegitimate" purposes. Many free banks were established by owners who had no direct ties to the community, and their balance sheets indicated that they were non-traditional–relying on banknote issue, accepting few deposits. The Revenue Act of 1853 created balance sheet distortions in that free banks avoided making taxable loans and discounts. Owners either issued tax-free loans to themselves or made deposits in other banks. Many of these free banks distributed their banknotes through other banks by making deposits in other banks–taking advantage of their private bank owners–or taking out loans for themselves–taking advantage of their business interests. Owners of multiple banks were able to sustain circulation with minimal reserves, but this did not impact the degree of noteholder losses. The reputation of local owners and private bankers were motivating forces in how they allocated their assets and managed their liabilities. There is some evidence that reputational effects were influential in the owner's decision to voluntarily close and redeem their banknotes at par. However, there was no distinction between ownership groups and noteholder losses, except for Chicago free banks.[27] Losses to banknote holders of locally-owned banks were no worse than out-of-state owners. The notion that the liberalization of banking laws would get banks into the hands of irresponsible and non-resident persons is not borne out by the evidence.

Future research on location decisions and ownership could be fruitful in dispelling the legend of the wildcat bank. Though these banks had non-traditional balance sheets, their location may have been necessary to fuel the economic growth of the period.

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[27] A model examined whether an ownership group was more likely to hold southern bonds in their portfolio. The result showed no distinction among the groups. Results are available upon request.

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