


## REVIEW

MAY/JUNE 1998

Eugene N. White is a professor of economics at Rutgers University. The author thanks Michael Bordo, Per Hansen, Naomi Lamoreaux, David Weil, David Wheelock, and the other participants in the Federal Reserve Bank of St. Louis' Twenty-Second Annual Economic Policy Conference for comments.



## Were Banks Special Intermediaries in Late Nineteenth Century America?

Eugene N. White

The financial crises and vastly increased competition of the last two decades have radically reshaped the American financial system. One key feature of this transformation has been the declining importance of banks' traditional activities. Weakened by crises and regulatory disadvantages, banks' share of intermediation has shrunk while the shares of other financial intermediaries and markets have expanded. The shrinking banking sector has raised concerns because banks are important "special" lenders to small firms and other borrowers, they operate the payments system and provide liquidity, and monetary policy is carried out by altering their balance sheets. To put in historical perspective the issue of banks' declining role in lending, this article examines the nature of bank lending in the late nineteenth century and why banks remained the dominant intermediaries, even when disadvantaged by regulation and challenged by competitors.

In banking history, the late nineteenth century is termed the National Banking Era. Beginning in 1864 with the passage of the National Banking Act and ending with the founding of the Federal Reserve System in 1913, the National Banking Era was a period of rapid economic growth and price stability. Growth was accompa-

nied by the spread of financial intermediation and innovation. Given the virtual prohibition of branch banking and low capital requirements, the demand for banking services drove up the number of commercial banks that were chartered under the National Banking Act and state laws from 467 in 1864 to 21,478 in 1913. Commercial banks' portfolios were shaped by regulations that prohibited investment in equities, limited mortgages, and encouraged short-term loans. Their liabilities were predominantly demand deposits, and although there had been experiments with insurance of bank liabilities before the Civil War, there was no insurance until very late in the period, when seven states created deposit guarantee funds after the Panic of 1907 (White 1983; Calomiris 1993).

As they do today, commercial banks felt competitive pressures from other regulated financial markets and intermediaries, including trust companies, investment banks, insurance companies, and thrifts. Combining deposit and loan banking with other financial activities, trust companies competed vigorously in the Northeast and Midwest. Commercial banks could not easily meet the demand for longer-term finance by the newly emergent modern corporations. Instead, investment banks created the large bond and equity markets to finance big business. These new financial instruments were absorbed by life insurance companies, often allied with investment banks, which had a steadily rising flow of policy premiums to invest. Banks also faced competition from the money markets. Improvements in transportation and communications enabled commercial paper houses to intrude on banks' territory, offering access to a national market for short-term credit. Mutual savings banks catered to small depositors and the mortgage market, although mortgage companies and savings and loan associations became increasingly important competitors late in the century.

Table 1

Financial Intermediaries' Shares of Assets (percent)

	Commercial Banks	Mutual Savings Banks	Savings and Loan Associations	Life Insurance Companies	All Other Intermediaries
1880	62.6	22.6	1.3	10.5	3.1
1900	62.9	15.1	3.1	10.7	8.2
1922	63.2	8.8	3.7	11.6	12.7
1950	50.8	7.6	5.7	21.1	14.8
1990	27.0	2.1	8.9	11.1	50.9

SOURCES: Goldsmith (1958), U.S. Dept. of Commerce (1975), U.S. Comptroller of the Currency (1975), Snowden (1987), *Federal Reserve Bulletin* (1991).

In spite of these fast-growing challengers, commercial banks retained their preeminent position in the National Banking Era. Table 1 reports the shares of all financial intermediaries' assets. Although it is difficult to reconstruct a complete picture of the financial system before 1900, the table demonstrates that commercial banks retained their dominant position among intermediaries well into the early twentieth century. There was little change between 1880 and 1922, when commercial banks steadily held approximately 63 percent of assets. The twentieth-century decline is evident in 1950; by 1990, commercial banks held only 27 percent of all financial intermediaries' assets.<sup>1</sup> The sources of this recent decline have been studied intensively (Boyd and Gertler 1993; Wheelock 1993; and Berger, Kashyap, and Scalise 1995). Banks' commercial and industrial lending, a "special" function of commercial banks, has been at the center of this contraction. As a share of all short-term debt of nonfinancial corporations, banks' commercial and industrial loans fell from more than 80 percent in 1970 to 60 percent by the early 1990s (Wheelock 1993). Banks have lost ground in lending to both nonbank intermediaries and markets. Finance company loans have supplanted bank loans, while offshore bank loans, not subject to reserve requirements, have competed with domestic banks and even domestic offices of foreign banks to grab a bigger share of commercial and industrial lending (Boyd and Gertler

1993). Instead of commercial and industrial loans, many corporations with good credit histories have found it cheaper to borrow on the commercial paper market.

However, banks' traditional lending operations have declined more than their total operations (Berger, Kashyap, and Scalise 1995). Banks have survived and prospered by moving some traditional business off their balance sheets. They have unbundled traditional functions in intermediation by offering loan commitments and standby letters of credit, and by selling and securitizing loans.<sup>2</sup> Banks remain on the scene in the commercial paper market by providing borrowers with standby lines of credit. Boyd and Gertler (1993) show that off-balance sheet items, in terms of credit equivalents, are roughly equal to half of banks' commercial and industrial lending. Berger, Kashyap, and Scalise (1995) conclude that while banks have lost considerable business to foreign banks, nonbanks, and markets, their share of intermediation has not shrunk as much as measured by traditional activities on their balance sheets.

Nevertheless, even with these qualifications, banks at the end of the twentieth century are no longer the preeminent financial institutions that they were at the beginning. Recent theoretical work argues that this smaller role for commercial banks and depository institutions, in general, is a predictable development. According to Diamond (1997), banks will be key

<sup>1</sup> Banks' share of intermediation declined even if one takes a broad definition of banking to include mutual savings banks and savings and loan associations. By this measure, banks' share of intermediation falls from 87 percent in 1880 or 81 percent in 1900 to 64 percent by 1950 and 38 percent in 1990.

<sup>2</sup> Noting that bank income from off-balance-sheet activities rose from 20 percent of total income in 1979 to 33 percent in 1991, Boyd and Gertler (1993) argue banking has not shrunk as much as would be indicated by commercial banks' share of assets. However, rising income from off-balance-sheet activities is not new. In the 1920s, this income rose from 9 percent to 14 percent of bank income (White 1984). Unfortunately, there is not sufficient data to make long-term comparisons of the relative shares of intermediaries by alternative measures.

providers of liquidity and allocators of capital when there is limited participation in markets in the early stages of economic development. More liquidity is created by banks' offerings of demand deposits backed by long-term assets, the price of which is raised by the expansion of the banking sector. The eventual growth of markets increases the use of long-term debt and equity. More participation in markets induces banking sector shrinkage, and bank holdings of long-term assets are reduced relative to short-term assets. Diamond's analysis emphasizes the role of banks as providers of liquidity and intermediation rather than as firms that solve a problem of asymmetric information by specializing in the evaluation and monitoring of high-risk, low-information borrowers. The special informational advantages of banks is, instead, the focus of contemporary theoretical analysis of banking lending, and the more central role of commercial banks in the nineteenth century suggests that these advantages loomed even larger during the National Banking Era. However, banking theory in the nineteenth century was concerned with very different issues and had very strong prescriptions for lending that do not accord with the modern literature.

To begin, this article reviews both contemporary and late nineteenth-century banking theory. The limited available published data, complemented by two case studies, provide some empirical evidence on the special character of banking. The preeminence of banking during the National Banking Era highlights the key attributes of commercial bank lending, while the growing competition from markets and other intermediaries reveals the origins of the change in banking's relative importance in the twentieth century.

### BANKS AS SPECIAL INTERMEDIARIES IN MODERN THEORY

The growing similarity among financial intermediaries makes banks, defined by their functions of taking

deposits and making loans, seem less special to the operation of the financial system. In recent theoretical literature, banks are considered special not because of the functions they perform but because they overcome important informational asymmetries.<sup>3</sup> According to this literature (Bhattacharya and Thakor 1993), the varied forms of intermediation are responses to various informational problems that prevent markets managed by brokers from efficiently selling borrowers' liabilities to savers. The special character of banks is best understood by comparing them to their closest market competition, money market mutual funds (MMMFs). Both banks and MMMFs provide transaction services and increase divisibility and diversification for portfolios of large-denomination assets. But banks are viewed by theorists as different because they are delegated by depositors to monitor borrowers. By monitoring borrowers through their transaction activities and by covenant enforcement, banks obtain continuous information on their customers' creditworthiness before and after the creation of a new loan.

Banks invest in the acquisition of this information to serve various types of borrowers. Bank loans may be useful to borrowers who are relatively poor credit risks and for whom information is relatively volatile (Berlin and Mester 1992). Relatively new borrowers, without well-established reputations, may also gain more from bank monitoring and choose bank loans instead of the capital market (Diamond 1991). Although small firms may find that banks are some of the few sources of credit, the higher interest they must pay for a bank loan may indicate that the cost of such loans is less than the cost of contracting for marketable debt. For large firms with access to the market, periodic signals from short-term bank loans are a useful signal to the market (Fama 1985).<sup>4</sup> Although banks do sell loans and securitize bundles of relatively homogeneous collateralized loans (automobile loans and mortgages), loans are often difficult to market because outsiders without access to banks' proprietary information find it difficult to value

<sup>3</sup> Fama (1985) first suggested that banks had this special character, examining why they finance loans with both demand deposits and certificates of deposit (CDs). Banks are at a disadvantage vis-a-vis other lenders because reserve requirements are an implicit tax on their liabilities. Banks can compete by using demand deposits, whose transaction services allow them to pay lower interest. CDs do not provide special transaction services and must pay the same interest as commercial paper and bankers' acceptances. The viability of CDs implies that borrowers regard bank's loans as special and willingly pay a higher rate of interest.

<sup>4</sup> Some empirical evidence for the special character of bank loans has been found by James (1987) and Lummer and McConnell (1989), who discovered abnormal positive returns on the stock of firms signing or renegotiating credit agreements.

loans originated by banks. Many loans are thus not marketed and, instead, are held until maturity, with the banks bearing the residual risk from nonperformance. It may be difficult to sell loans without recourse, because resale leaves the originating banks with no incentive to produce the information needed to monitor the borrower. Banks have a strong incentive to monitor borrowers continuously because bank loans are usually last in line of debt seniority. Thus, renewal of a bank loan credibly signals other, more senior creditors of a firm that they do not need to invest in a costly analysis of the borrower.

Another key feature of banks that is highlighted by this theoretical literature is the fact that loans are financed with shorter-maturity liabilities (Thakor 1992). This maturity transformation requires banks to bear interest-rate risk, for which they are rewarded. A positive term premium in the yield curve gives banks an incentive to engage in a maturity mismatch. The greater the mismatch, the higher the return and volatility on a bank's equity (Deshmukh, Greenbaum, and Kanatas 1983). However, a maturity mismatch also imposes market discipline on the bank, which induces it to screen and monitor loans, as deposits may be withdrawn faster than loans are paid off. This maturity mismatch makes banks prone to panics in a system without deposit insurance.

The threat of a panic arises because, as delegated monitors, the banks themselves need to be monitored. For transaction services, depositors need a very low-risk asset. Demandable deposits, secured by a diversified portfolio of loans, are such an asset. But security is guaranteed only when depositors can discipline the bank managers by quick redemption of their deposits (Calomiris and Kahn 1991). When depositors believe that their bank's risk has increased, they can withdraw their deposits or refuse to roll over their short-maturity CDs. However, given that loans are difficult for outsiders to value, a change in the economic environment may cause depositors to panic. Some banks may indeed be in trouble, but the inability to

value the portfolio of all banks correctly may lead to contagion in which a run on weak banks spreads to strong banks.

In the current literature, banks perform a central role by lending on nonmarketable information they have produced and providing continuous monitoring of borrowers. Funded by liabilities that create a maturity mismatch, banks are, in turn, monitored by their depositors.

## THE REAL-BILLS DOCTRINE IN THEORY

Nineteenth-century banking theorists would have found this contemporary description of banks' role in the financial system somewhat puzzling. Banks were regarded as very special intermediaries in the nineteenth century, but for different reasons than we think of today. There was less competition from other intermediaries and markets, and hence there was less concern about the special character of bank loans. Instead, banking theorists were more worried about the safety and liquidity of loans as they affected the banks' ability to pay their depositors on demand.

Virtually all students of banking in the nineteenth century paid homage to the "real bills" doctrine. According to this theory, banks should offer only short-term loans to finance the production or shipment of goods. The sale of goods would then be used to pay off the loans. These loans were considered to be safe because they financed real short-term commercial transactions.<sup>5</sup> Warning against borrowing to pay off existing debts or make speculative investments, Homans (1857, p. 32) praised the safety of real bills: "When money is to be invested in the purchase of merchandise, cattle, flour, or other property in the regular course of the borrower's business, the investment yields to the borrower a means of repayment; nothing is hazarded by ordinary integrity, and ordinary exemption from disasters." Proponents of the real-bills doctrine believed that if banks followed its prescriptions, the quantity of loans and liabilities

<sup>5</sup> A bill of exchange to finance the shipment of goods was thus an example of a real bill.



would be limited to the legitimate needs of business, and banks would remain liquid. In this era, liquid loans were simply loans that were paid off at maturity. Liquidity meant that an asset was automatically paid off at maturity, not necessarily that it was easy to market. The more modern idea of liquidity and the idea of holding a diversified portfolio of readily marketable assets for a secondary reserve did not gain wide acceptance until the beginning of the Federal Reserve period (James 1978).

Proponents of the real-bills doctrine offered blunt prescriptions to bankers. In 1876, the Comptroller of the Currency addressed the American Bankers' Association: "As banks are commercial institutions, created for commercial purposes, preferences in discounts should always be given to paper based upon actual commercial transactions. Banks are not loan offices. It is not part of their business to furnish their customers with capital..." (Bolles 1890, p. 70). The Comptroller was emphatic that all paper should be paid off at maturity, enabling banks to meet withdrawals with funds from maturing loans.

As late as 1915, Kniffin (1915, p. 209) wrote in a standard text on banking that "the secret of sound banking is to have a steady stream of money coming in by way of maturing loans, so that the constant stream of obligations falling due daily by reason of the demands of the checking depositors may be met. A demand obligation cannot be met by a time security and only as a bank keeps its funds liquid—that is, flowing in and out—can it meet every demand made on it without hardship."

The strict prescriptions that real-bills advocates proffered to commercial banks raise the question of how such advocates would manage savings banks, which by their very design held much longer-term assets. Although funded by savings deposits, savings banks did experience runs in the late nineteenth century and could not rely on a rapid payoff of loans to meet their customers' demands.<sup>6</sup> Few writers of the period addressed this

problem. Bolles (1888, pp. 208-13) was an exception, but his analysis was somewhat strained, given real-bills strictures. He admitted that mortgages were "less readily convertible than some other securities" but argued that "no property is more stable in value, and none less likely to depreciate, than real estate." Bolles wrote, "These institutions represent the industry and frugality of the masses, and every effort should be made to put them on the soundest footing." The best way to retain confidence was to invest "savings deposits in mortgages properly secured on the farms, the shops and the homes of the people. If these are not real values, what are?" Recognizing that savings banks' advantage probably lay in local real estate, he warned against lending on real estate out of the region because of the difficulty in ascertaining the mortgages' underlying security. Like other theorists of the period, he opposed permitting large deposits in savings banks. The organizers of mutual savings banks had established rules to keep wealthy individuals from making deposits on the grounds that these had been established primarily to promote thrift among the poorer classes. Bolles, on the other hand, objected to participation by large depositors because he believed that they would be likely to withdraw their funds in a crisis. Limit deposits to small savers and loans to local real estate, said Bolles, and savings banks would be safe institutions.

The real-bills prescription for lending required that loans be short term. The implication was that banks should minimize the maturity mismatch of assets and liabilities. While this would reduce the earnings that a bank might obtain from the term premium as a result of a mismatch, it would supposedly increase a bank's ability to meet a run on the bank, satisfying its customers with the proceeds of loans that were being rapidly paid off. Thus, even though panics were frequent in the late nineteenth century, depositors did not play as large a disciplinary role in monitoring banks as envisioned by contemporary theory.

<sup>6</sup> Savings banks did have one advantage in a crisis. While commercial banks were required to make payment on demand, savings banks had the right under state law to restrict payment under certain conditions.

## THE REAL-BILLS THEORY IN PRACTICE

While banking theorists offered very strict prescriptions to banks in the nineteenth century, banking practice diverged from theory even as bankers believed they held to the theory in spirit. The following paragraphs explore some of these discrepancies.

### *The Problem of Lending*

The real-bills theoreticians favored the use of two-name paper, but bankers began to employ other financial instruments. Before the Civil War, commercial transactions were usually financed by a trade acceptance, a two-name bill of exchange that provided recourse to the acceptor or endorser of the bill in case of default. In *The Banker's Common-Place Book* (1857), Homans advised his readers to accept only notes endorsed by men of wealth and good reputation and stated, "Banks... never regularly lend money without receiving the security of more than one person who is deemed safe for the debt; and a good banker will err on the side of excessive security, rather than accept security whose sufficiency may reasonably be questioned." In his standard text on banking, Bolles (1888, pp. 52-53) explained why two-name paper was essential for making banking "a very safe and easy business":

I should say that the first and most important function of a bank is, by the use of the capital which it controls, to bridge over the periods of credit which necessarily intervene between production and consumption, in such a manner as to give back to each producer, or middleman, as quickly as possible, the capital invested by him in such products, in order that he may use it over again in new production or new purchases. ... Thus defined, banking is not only one of the most useful; but it is also one of the most safe and healthy of business operations. Its safety lies in the fact that every loan of

the character described, is based on property of intrinsic value. ... The several makers of the paper, though debtors in form, are only insurers, or guarantors, in fact. They pledge their respective property to the payment of the loans; but the primary and generally sufficient pledge is the property for which the notes are given. The wealth of the makers is a necessary margin or guaranty, because the property sold may be destroyed or the value may fall.

An ideal real bill, like a trade acceptance, was secured by a real transaction, endorsed by a respectable, wealthy individual, and was short term. Evaluating the quality of this form of lending relied as much on an evaluation of the endorser as it did on the issuer of the note and the safety of the underlying transaction.

The crucial difference between contemporary banking theory's positive description of banking and the real bills' normative description is that they are predicated on banks' specializing in the collection of different types of information. According to contemporary theory, a modern bank collects financial and transaction information from its customers to assess their creditworthiness. In contrast, nineteenth-century banks were told that in addition to verifying that bills represented bona fide transactions, they needed to monitor and collect information on the endorsers of bills. Bolles (1888, pp. 97-99) described the process whereby a bank would decide every day what loanable funds were available and examine the bills offered. Some makers and endorsers were better known, and a bank would select the most desirable offerings and decline the remainder. In effect, the tasks of judging the creditworthiness of the final borrower and monitoring his performance were delegated partly to the endorsers of the bills, to whom the bank had recourse.

In spite of the admonitions of real-bills advocates, markets in the nineteenth century moved away from two-name paper. After the Civil War, the single-name

Table 2

Composition of Bank Loan Portfolios  
(percentage of total loans)

	Total Loans (\$ millions)	Demand, Unsecured by Collateral	Demand, Secured by Collateral	Time, Two-Name Unsecured	Time, One-Name Unsecured	Time, Secured by Collateral	Mortgages or Secured by Mortgages & Other
National banks 1895	2,042	5.1	13.9	46.9	15.6	15.6	0
National banks 1910	5,455	9.7	17.2	33.2	19.1	20.4	0.5
Nonnational banks 1910	7,066	3.8	13.5	14.3	7.5	15.8	45.2

SOURCE: U.S. Comptroller of the Currency, annual reports, 1895, 1910.

unsecured promissory note—commercial paper—became the leading short-term instrument for farmers and merchants. This instrument was criticized for its lack of adequate security in the form of collateral or personal guarantees from one or more endorsers, and it required a more modern direct evaluation and monitoring of the customer. This increasingly popular instrument could be taken directly by a commercial bank or handled by a commercial paper house. Data on the types of loans and their characteristics during the National Banking Era are very scarce. Greef (1938, p. 68) reports one estimate that single-name paper constituted 75 percent of the market by 1894. Myers (1931, pp. 322-23) calculated that the ratio of two-name paper to total loans and discounts fell from 50 percent in 1886 for New York banks to 20 percent in 1900, with the proportion of single-name paper rising from 10 to 20 percent. For country banks, these ratios fell from 50 percent to 33 percent for two-name paper and rose from 10 percent to 20 percent for single-name paper. According to Myers (1931, p. 136), only 3 percent of all domestic credit transactions were financed by trade acceptances at the end of the century. Some of the limited data from the Comptroller of the Currency's annual reports is presented in Table 2. For national banks, the share

of two-name unsecured paper fell from 47 percent to 33 percent of all loans and discounts between 1895 and 1910, while unsecured time and demand loans both rose. The amount of two-name paper held by nonnational banks—all state banks, savings banks, loan and trust companies, and private banks—was already a low 14 percent by 1910.

Discounts were unsecured loans made on the general credit of the borrower. Loans were usually secured by a pledge of collateral, including stocks, bonds, receivables, merchandise, or real estate. With the decline in two-name paper, collateralized loans were of increasing importance in the nineteenth century, as collateral provided an alternative to the guarantee of an endorser. The Philadelphia National Bank, for example, ventured into granting loans on warehouse receipts, which proved to be a profitable line of business.<sup>7</sup> Considered poor collateral for commercial banks because it was illiquid, real estate did not fit the real-bills doctrine, and mortgage loans on real estate were prohibited to national banks until 1913. The share of both demand and time loans secured by collateral in national banks' loan portfolios rose between 1895 and 1910 (see Table 2). The largest item of secured lending for national banks was, of course, mortgages. Mortgage lending was dominated by

<sup>7</sup> Although backed by collateral involved in a real transaction, as prescribed by real-bills theory, these loans were not completely safe. In 1888, the bank found itself the owner of a warehouse full of overvalued prunes. Wainwright (1953), p. 155.

savings banks, and mortgages constituted the largest item in their portfolios.

Given the hold of the real-bills doctrine, with its emphasis on evaluating specific transactions and the quality of endorsers, there was a slow development of alternative methods of evaluating loans and the quality of a bank's portfolio. Bankers had supplemented their own knowledge of business borrowers by subscribing to reports of credit agencies like R.G. Dun and Company. Yet, these reports were usually based on estimates of a firm's worth and reports from lawyers and other business people about the character of its proprietors, not financial statements (Lamoreaux 1994). Some banks required borrowers to maintain compensating balances on deposit to gain additional information.<sup>8</sup> Contemporary writers also urged banks to discover what constituted a firm's fixed assets and its quick or convertible assets, recommending that loans could be granted if a borrower's liabilities did not exceed 50 percent of his quick assets. The maximum recommended term was six months. The result would be short-term, self-liquidating loans.

Offering advice on how to judge a potential borrower, Moulton (1918, p. 655) wrote the following:

The amount that may be safely loaned... can be ascertained only from an intimate personal acquaintanceship with the borrower and his business or from a study of a balance sheet or financial statement setting forth the condition of the business. The growing impersonality of modern business in the larger centers and the growing size and complexity of business enterprise has more and more necessitated the use of the balance sheet as a basis of credit extension.

He believed that it was in the late 1870s that financial statements were first used in procuring loans, but it was not until the 1890s that their use became common even in large banks. Few small suburban banks or country banks used them.

The intimate and often qualitative knowledge of local clients possessed by a banker was not easily replaced by financial statements in the late nineteenth century. Perhaps the most important reason for the failure to use financial statements was that there were no uniform accounting standards for business. This feature of business practice added to the asymmetry of information that gave banks their special role. For all nineteenth-century firms, accountants had little authority to impose standardized accounting practices on clients, and there were few statutory requirements governing accounting behavior (Brief 1966). Without uniform accounting methods, there was no ready alternative evaluation method to a banker's qualitative judgment of his customer.

The longstanding problem posed by an absence of accounting standards came into sharp focus when the Federal Reserve Board wanted to guarantee the quality of member banks' paper eligible for discount by using an objective analysis of financial condition instead of subjective judgments about the borrower's character (Miranti 1986). To ensure that lending officers analyzed reliable data when granting credit, the Board wanted borrowers' statements to be certified by public accountants, and it issued Circular No. 13 in 1914 to set down the rules. When notes were offered for rediscount, they were to be accompanied by a statement setting forth the condition of the borrowers and stating that the funds were used for the purpose of financing current transactions, not fixed capital or permanent working capital. The member bank offering a note for rediscount was required to have these statements on file and to certify that they were in compliance with the circular (Willis 1923). Member banks quickly realized that, under these rules, they would be able to discount very little of their paper. They protested to the Fed that the average business, and especially the average farmer, could not furnish the appropriate type of statement, the demand for which would be seen as insulting and burdensome.

A special committee was convened by the Board to reconsider Circular No. 13.

<sup>8</sup> Compensating balances could be used to raise interest rates above usury rates, but this tactic was less important in the late nineteenth century, when market rates had declined well below usury rates in most states. Lamoreaux (1994), pp. 101.



The committee offered the following observation:

We believe that the country banks which constitute the majority of our members are generally without credit files as known to the large city bank. Borrowers are personally known by the officers and directors who are usually their neighbors, and the means, business and character of such borrowers are matters of intimate personal knowledge to the bank officer. To bring about a uniform understanding among country bankers as to what is and what is not eligible paper within a narrow or even technically exact interpretation of the [Federal Reserve] Act will take a long time and a still longer time will be necessary to arrange for the filing of financial statements by borrowing customers of country banks (Willis 1923, p. 914).

The impossibility of imposing financial and accounting standards on member banks and their customers led the Fed to back down and issue a new circular in 1915 that lowered requirements for eligible paper. Most importantly, this circular waived regulation for loans below \$2,500, which exempted most country bank paper. The Federal Reserve would now discount bank paper, but it was not easily marketable. As this episode demonstrates, the absence of generally accepted standard accounting practices in the nineteenth century made independent loan evaluation difficult, thus augmenting the asymmetry of information and ensuring the special position of banks, which could observe lenders firsthand.

For banks, sophisticated borrower evaluation—beyond reliance on personal knowledge of local business—required specialization. However, the banks of this period were predominantly small with very modest staffs and limited management structures. Larger banks employed a cashier who headed daily operations, several tellers and clerks, and perhaps a bookkeeper. Smaller banks might have only a cashier. The largest bank in the

major financial center of Philadelphia, the Philadelphia National Bank, had 34 men on its payroll in 1879, including one assistant cashier to help manage its expanding operations (Wainwright 1953). Management was in the hands of the directors, one of whom was selected as president. The directors verified the cashier's accounts and decided how much to lend and to whom (Lamoreaux 1994). The directors thus had no staff to draw up detailed reports on customers and instead relied on their local knowledge of business and their customers' "character." The growth of business and the shift to lending outside the community created a need to professionalize bank management. Writers advocated that a professional bank staff should evaluate real bills with objective standards, keeping banks safe and sound and avoiding excesses from insider lending. But most banks outside the major urban centers were too small to be able to follow these recommendations.

According to Margaret Myers, the first credit department was established by the Importer's and Trader's National of New York in the 1880s (Myers 1931). At the same time, the Philadelphia National Bank found it necessary to add a credit department because directors no longer intimately knew all borrowers (Wainwright 1953). The idea began to spread slowly after the Panic of 1893 (Westerfield 1924), but by 1899 there were still only 10 banks in New York with credit departments. Credit departments gradually made granting credit more impersonal, examining the financial records, not the character, of prospective borrowers. However, their role in the National Banking Era remained small overall.

### *The Maturity Mismatch*

Another feature of lending practices that contradicted the real-bills doctrine was the length of loan contracts. The real-bills doctrine assumed that banks would operate without a large maturity mismatch in order to reduce a bank's exposure to a run, but the common practice of renewing loans produced a significant mismatch. If

Table 3

Composition of Bank Deposits  
(percentage of total loans)

	Total Deposits (\$ millions)	Demand Deposits	Demand Certificates of Deposit	Time Certificates of Deposit	Savings Deposits	Other
National banks, 1910	5,287	80.1	7.6	8.2	0.0	4.1
Nonnational banks, 1910	9,996	35.9	2.2	9.7	48.7	3.5

SOURCE: U.S. Comptroller of the Currency annual report, 1910.

one looked at bank portfolios without inquiring into loan or borrower histories, it appeared that banks did keep their lending short-term. According to James (1978), most bank loans had short-term maturities. He concluded that typical loans were for 30, 60, or 90 days, with one year being an upper bound. An average maturity was about 60 days. One survey by the Comptroller of the Currency in 1913 found that 57 percent of all bank loans had maturities of fewer than 90 days (James 1978, p. 61). In 1913, the Comptroller of the Currency (1913, p. 100) calculated that 57 percent of bank loans had maturities of fewer than 90 days.

Lending practices differed quite sharply from what appeared on banks' books. Many loans were rolled over in accordance with the working-capital needs of firms and farmers. Moulton (1918) saw little evidence that loans were automatically liquidated at maturity. He found that country banks granted repeated renewals, extending a loan for years to finance working capital. In commercial centers, bankers estimated that 40 percent to 50 percent of unsecured loans were typically renewed. The continuous needs for working capital required continuous credit. Unnerved by the Panic of 1907, the Chicago banks asked Mr. Armour to liquidate his loans so they could replenish their reserves. He replied, "What? I who am liquidating the country and taking the cattle, sheep, and hogs that are being daily sent to

market to liquidate bank loans! . . . What would be the condition of your bank loans if I turned these cattle back to the farms?" (Moulton 1918, pp. 719-20).

The maturity mismatch from funding loans of a few months' maturity with demand deposits thus was even greater, given the actual maturities of loans. If commercial banks held substantial time deposits, this mismatch would have been reduced. However, commercial banks, and especially national banks, primarily held demand deposits. The reserve requirements set by the National Banking Act of 1864 made no distinction among demand deposits, savings, or time deposits, and thus yielded no incentive to increase deposits with longer maturities. Table 3 offers some limited data on the composition of bank deposits in 1910. Demand deposits, at 80 percent of all deposits, were of overwhelming importance for national banks. The picture for nonnational banks was more complex. States often set lower reserve requirements for time deposits (White 1983), encouraging the use of these liabilities. One study of Minnesota banks (James 1978) found that two-thirds of deposits in country banks were time deposits, while time deposits were just 10 percent to 25 percent of deposits in city banks. Longer-term loans and a maturity mismatch are what one would expect to see, according to Diamond (1997), when the capital market is not yet well developed.

The design of the Federal Reserve Act had been partly informed by the real-bills doctrine, and the Fed's early regulations reflected the theory. Even in the 1920s, bankers were expected to conduct an annual "clean up" of debt to demonstrate their creditworthiness and to ensure that the bank was not financing any permanent capital. However, Jacoby and Saulnier (1942) reported that while bankers continued to offer short-term loans almost exclusively, there was a full expectation on the part of both borrowers and lenders that these would be renewed. One study of Iowa banks for 1914-24 showed that while notes were dated with six-month maturities, actual maturities ranged from 10 months to 32 months (Jacoby and Saulnier, p. 13). Jacoby and Saulnier observed that many businesses continued to retire their loans for a short period each year by borrowing from other institutions. They commented that this had the limited value of showing that the borrower could get credit from another institution. Only after the crisis of the 1930s did regulators concerned about the absence of long-term credit to business actively encourage longer-term loans. Bank examiners were instructed not to criticize loans because they had maturities in excess of six months, and the Banking Act of 1935 permitted Federal Reserve Banks to lend on security of any sound asset, regardless of maturity. Beginning in the late 1930s, long-term loans, encouraged by federal regulators and the cessation of new issues on the capital markets, finally became acceptable assets in bank portfolios, even though long-term credits had been implicitly given in the nineteenth century.

The maturity mismatch may have widened after the crisis of the Great Depression and New Deal legislation. Table 4 presents two surveys of member bank loans in 1946 and 1955. One third of member bank loans in these years had maturities of more than one year. The stated maturity structure of these banks appears to be much longer than the structure claimed by most contemporaries and historians for the National Banking Era.

Given that 75 percent of commercial bank deposits were demand deposits in 1950 (*Historical Statistics*, Part II, p. 1022), this would imply a greater maturity mismatch. But this mismatch appears to have shrunk in more recent years. The survey of new loans for 1996 also presented in Table 4 shows that only 12 percent had maturities over one year, and more than 72 percent were for one month or less. This shortening of maturities also appears to have reduced the need for collateral, which had fallen. By January 1996 (*Federal Reserve Bulletin*, May 1996), demand deposits accounted for only 15 percent of all deposits. Even if NOW accounts are included, the total is only 24 percent. There is obviously close liability management and a closing of the maturity mismatch. With the advent of highly developed capital markets, commercial banks, as Diamond (1997) argued, had fewer long-term assets.

The other major nineteenth-century depository institutions, the mutual savings banks, had the bulk of their liabilities in the form of savings deposits. In Table 3, the large fraction of savings deposits in nonnational banks reflects the inclusion of mutual savings banks. Savings deposits were assumed to be less volatile than demand deposits and a good match for a portfolio composed primarily of mortgages. Mutual savings banks' exposure to maturity mismatch was less than might have been expected because mortgage contracts were different from today's contracts. A census study in 1895 of a sample of mortgages from 35 counties across the country found that the ratio of a mortgage to the underlying property value was moderate, and the average life of a loan was relatively brief. For farms across regions, the ratio of the mortgage to property value ranged from 32 percent to 44 percent, and the average life of a mortgage from 2.81 years to 6.62 years. For homes, the ratio of values varied between 33 percent and 48 percent, and the loan life from 1.92 years to 5.99 years (Snowden 1987). According to Snowden (1991), these short mortgage contracts

Table 4

## Terms of Lending for Commercial and Industrial Loans

Type & Maturity of Loan	Member Banks, November 20, 1946			Member Banks, October 5, 1955			Commercial Banks, February 5-9, 1996		
	Billions of dollars	Percent	Percent collateralized	Billions of dollars	Percent	Percent collateralized	Billions of dollars	Percent	Percent collateralized
Total short-term loans	8.7	65.9	44.8	20.3	65.9	46.3	56.9	87.9	31.7
Demand loans	2.1	15.9	76.2	4.5	14.6	77.8	19.5	30.1	44.7
Overnight loans							13.6	21.0	11.8
1 month or less							13.8	21.3	21.5
Under 6 months	5.6	42.4	33.9	13.1	42.5	35.9			
More than 1 month							9.9	15.3	44.7
6 months to 1 year	1.0	7.6	40.0	2.7	8.8	44.4			
Total long-term loans	4.5	34.1	44.4	10.5	34.1	59.1	7.9	12.2	64.5
Total loans	13.2	100.0	43.9	30.8	100.0	51.0	64.7	100.0	31.7

SOURCES: *Federal Reserve Bulletin*, June 1947, ~~Sept~~ 1959, and May 1996.

permitted renegotiation to adjust to altered circumstances. The relative brevity of these contracts meant that the exposure to risk from security mismatches was reduced for any financial intermediary making mortgages because a high proportion of these mortgages fell due each year.

### WERE LATE NINETEENTH-CENTURY BANKS SPECIAL?

Competition from other intermediaries and markets has recently called into question banks' distinctive role in the financial system. Gorton and Pennacchi (1993) find some evidence for an unbundling of banks' two functions, making loans and creating deposits. They posit that this development is a result of technological changes that have lowered the cost of information production. Money market mutual funds compete with demand deposits by investing in commercial paper instead of loans, while nonbank lenders, including finance companies and revolving credit, produce loans that compete with banks' commercial and industrial loans. As these intermediaries do not tie demandable liabilities to nonmarketable assets, there appears to be little threat of panic to MMMFs from commercial paper defaults or to nonbank lenders from the failure of some of their number.<sup>9</sup> As banks' special character is supposed to be embodied in their ability to collect information and monitor borrowers, the growth of MMMFs seems to imply that the market has an increased ability to make short-term credit marketable. Although late nineteenth-century banks were different in many respects from contemporary banks, having no rivals like money market mutual funds, they were forced to compete with the commercial paper markets which grew very fast in this period.

The American commercial paper market developed with the spread of the unsecured promissory note (Greef 1938). The structural defects of the banking system, dominated by small unit banks, spurred its growth on by allowing businesses an alternative to borrowing

from their local banks. Most banks were relatively small, and lending to a single borrower was usually restricted to a fraction of the bank's capital (White 1983).<sup>10</sup> These regulations helped to stimulate the development of the deep American capital markets, where there were no regulatory restrictions on the size of an issue (White 1992). A firm requiring a large short-term loan found commercial paper an attractive alternative to borrowing simultaneously from several banks.

Borrowers in the commercial paper market were typically businesses with a rapid turnover of merchandise or working capital. A substantial net worth was required for a firm to enter this market (James 1996, pp. 222-23). While some firms in this market relied on it exclusively, most maintained lines of credit with commercial banks to meet usual short-term credit needs. Kniffin (1915, p. 463) advised that "it is good policy for a concern to borrow in the open market and reserve its home banks for emergencies. It can often obtain better rates in the broad market, and has the home bank to fall back upon when needed." The lengthening of credit terms and a growth in receivables helped to spur the development of single-name paper (Baxter 1966, p. 5). Commercial paper had maturities ranging between two months and nine months, but most commonly four months to six months. While banks might feel obliged to renew loans, paper, once granted, was paid off at maturity and thus made a good investment for excess funds. Initially both single-name and double-name notes were issued in odd amounts to mirror the exact credit demands of the firms. But banks found this practice inconvenient, and by 1890, commercial paper came to be issued in common denominations, usually \$2,500, \$5,000, and \$10,000 (Greef, pp. 75-77). By the 1890s, not only merchants but also many manufacturers were active issuers in this market. At the same time, commercial paper houses became more professionalized. They acted less as brokers between borrowers and lenders than as outright buyers, who held the paper for resale,

<sup>9</sup> Gorton and Pennacchi caution that these institutions may mimic banks in that commercial paper is backed by bank loan commitments, and nonbank lenders often finance their activities by issuing puttable bonds.

<sup>10</sup> Some larger banks were adept at innovation to provide more credit. The Philadelphia National Bank skirted around the national bank rule limiting loans to one borrower to 10 percent of capital by purchasing railroad bonds, on which there was no such limitation, with the understanding that they would be repurchased (Wainwright 1953).



and organized credit departments to evaluate borrowers. Whereas most banks had relied on the recommendations of dealers and correspondent banks, many began to set up credit departments to investigate the quality of notes.

Unlike today, commercial banks were the largest purchasers of commercial paper before the First World War. Although commercial paper houses were the rivals of banks for lending, banks bought most of the paper issued. It was a useful alternative investment for banks, paying a lower rate of interest than loans they originated, but it was safe, being carefully selected by the houses that dealt in these obligations. By 1900, banks bought approximately 95 percent of all new offerings (James 1996). The market was not very liquid. There was no secondary market before the establishment of the Federal Reserve, although some city banks might rediscount paper for their correspondents. Commercial paper was held to maturity when it was paid off with near certainty. Competition from commercial paper brokers vexed bankers, especially rural bankers who lost customers to commercial paper houses (James 1978). Pressure from these bankers led the American Bankers' Association to form a committee in 1908 to examine competition from note brokers. The committee attacked the bidding away of good customers with low rates of interest, lowering rates on commercial loans below what they believed was sustainable for banks.

Unfortunately, there is little information on the size or growth of the commercial paper market before the establishment of the Federal Reserve System. After examining the various estimates, Greef (1938) concluded that just before the founding of the Fed, total annual sales of commercial paper was somewhat less than \$2 billion, representing obligations of 2,500 to 3,000 borrowing firms. James (1978) accepts a figure of \$1.7 billion for 1912.<sup>11</sup> Assuming that commercial loans and commercial paper had the same average maturity, he computed the total volume of new loans for banks in 1912

and found that commercial paper was 5 percent of total loans. Foulke's (1931) estimate of 5 percent to 12 percent of all unsecured bank loans is in the same range. Similarly, McAvoy (1922) estimated commercial paper to be 10 percent of loans made by national banks.

In the first authoritative study of the commercial paper market, Greef (1938) found that borrowers used the commercial paper market to obtain working capital and for seasonal needs, the same reasons that firms borrowed from banks. He noted that most firms borrowed through commercial paper dealers and from banks at the same time or "rotated" their open-market paper and bank loans. Even if open-market rates were well below the cost of bank loans, Greef found that firms were careful to maintain satisfactory average balances and open lines of credit with banks. Greef observed that coordinated borrowing from banks and the commercial paper market offered firms advantages in raising short-term capital. First, the cost of open-market borrowing was usually below the cost of bank loans, even after adjustment for commissions to dealers and retention of unused bank balances. Open-market borrowing also gave firms bargaining power with their banks and an ability to "clean up" bank loans, when desirable, and borrow larger sums than an individual bank could supply. Contradicting modern banking theory, Greef saw no major disadvantages to open-market borrowing relative to bank borrowing, and he left their coexistence largely unexplained.

In spite of the different character of the commercial paper market in the nineteenth and early twentieth centuries, it stood in a similar relationship to banks then as it does today, and as posited by contemporary banking theory. Firms raised money in both markets, but they appear to have resorted to banks for many of the same reasons firms are alleged to do so today. Firms needed to maintain open lines to their banks, which they would use presumably when they needed their credit-worthiness verified. As Moulton (1918, p. 720) pointed out, commercial paper was

<sup>11</sup> The commercial paper market shrank rapidly in the 1920s. In 1929, the ratio of open-market paper to bank loans was 0.66. It experienced a postwar revival, becoming more important than it had been in the pre-World War I era. Commercial paper's share of all short-term lending rose from 2 percent in 1966 to 15 percent in 1991 (James 1996, pp. 232-49).

not automatically renewable. If a firm could not pay off a note when it was due, it could look to its bank for credit instead of the open market. The real-bills doctrine claimed that firms should not be wholly dependent on outside finance for working-capital needs; hence the recommendation for annual clean-ups. Although clean-ups followed the precepts of real bills, they also may be explained by modern theory—and grudgingly seen by some contemporaries—as a useful way to subject the firm to regular checkups to signal their creditworthiness. Banks were thus performing much the same function as they do today.

## TWO CASE STUDIES

The paucity of aggregate quantitative data on vital lending characteristics makes it difficult to evaluate actual lending practices in the late nineteenth century. There was a great deal of variation in banking operations, depending on the region, the location of the bank, and the size of its operations. Under the National Banking System, large city banks' portfolios were dominated by deposits they held as part of other banks' reserve requirements, which they largely invested in brokers' loans. In Boston, Lamoreaux (1994) found that the Merchants National Bank had 95 percent of its loans backed by stocks and bonds, and the Second National Bank had 79 percent. The one bank for which she found detailed records, the Suffolk National Bank, had 46 percent of its loan portfolio in collateral loans (almost entirely brokers' loans) and 54 percent in short-term loans on personal security (mostly commercial paper). One of the largest banks in New York City, the National City Bank (Cleveland and Huertas 1985), handled the financing of major corporations and entered investment banking. Other prominent banks, the First National Bank and National Bank of Commerce, were allied with investment banks and life insurance companies in the flotation of new securities (North 1954)—arrangements derided as the "Money Trust." These roles of the larger

banks are worth contrasting to the vast majority of banks, which served as correspondent banks. While the large money-center banks served as reserve banks for the rest of the banking system, other banks concentrated more on commercial and industrial loans to local business.

While the two case studies presented here offer only a partial picture of bank lending, they do show the unique role of banks as lenders to small borrowers who had limited access to other sources of credit. In making and monitoring its loans, the Bank of A. Levy, a commercial bank, constantly observed the local farmers and businessmen. The bank was familiar with all aspects of local economic activity and did not require financial balance sheets, which could not have been produced in any event. The Emigrant Savings Bank, a mutual savings institution, carefully mapped out the properties on which it offered mortgages in New York and had a great familiarity with its ethnic clientele through its large base of savings deposits.

### *The Bank of A. Levy*

In 1885, the Bank of A. Levy began operation as a small, rural, private commercial bank in Ventura County, California (White 1997). It grew rapidly with the expansion of local agriculture and took out a state charter in 1905, surviving to become a prominent local institution that was finally absorbed by First Interstate in 1995. The surviving loan book I examined covered the period from August 1892 to October 1894 and included 330 loans. Only 22 of the loans had been purchased by the Bank, the rest being made directly by the Bank. The small percentage, 6.7 percent, of indirect lending is similar to estimates for all banks. These purchased loans do not appear to have been obtained from a commercial paper house, and they were held to maturity. The total value of all loans was \$124,120.

The loans made by A. Levy were typical for a country bank, as described by James (1978). The average loan was small,

Table 5

Maturity of Bank of A. Levy Loans

Days	Stated Maturity (number of loans)	Percent	Actual Maturity (number of loans)	Percent
1	283	85.8	0	0.0
2 to 30	6	1.8	25	7.9
31 to 60	6	1.8	34	10.7
61 to 90	5	1.5	29	9.1
91 to 120	7	2.1	28	8.8
121 to 365	19	5.8	128	40.4
365 +	4	1.2	73	23.0
<b>Total</b>	<b>330</b>	<b>100.0</b>	<b>317</b>	<b>100.0</b>

under \$400, but loans ranged from \$5 to more than \$5,000. The loans were all unsecured promissory notes. Achille Levy's bookkeeper wrote that Levy was a disciple of the "character loan" method. If he decided that an applicant was of good character, a loan was forthcoming (Carroll 1958). If the borrower's reputation was flawed, the offer of thousands of dollars worth of collateral could not persuade Levy to make a loan. Levy carefully monitored his customers' activities, not only by observing their banking activities but also by traveling around the county on horseback, recording information in his pocket notebook.

Although Levy's lending violated the real-bills doctrine by the use of single-name, unsecured promissory notes, it followed the spirit, in that all the loans were nominally short term. Almost 86 percent of all loans were one-day loans. These loans would appear to have been quite liquid, since Levy could call them for repayment at a day's notice. The typical term of Levy's borrowed funds for 1895 (the closest year with available data) was one day—the same as the nominal maturity of the loans. Thus, there appeared to be no maturity mismatch with one-day loans funded by demand deposits and one-day bills payable.

However, the bank's loans were automatically rolled over. There is no

evidence that they were called before the borrower was ready to repay the debt. Table 5 shows the stated loan maturities and the actual maturities for the 317 loans for which there was information. The average actual maturity for a loan was 279 days, or about nine months. Forty percent lasted between four months and one year, and 23 percent had actual maturities of more than one year. There was only a small actual maturity mismatch because the average actual maturity for 1895 bills payable was 199 days. The actual loan maturities were at the high end of the estimates for the length of loans; few writers suggested that banks make loans for more than one year. Levy clearly provided a continuous source of working capital for local farmers and merchants. Although there were 330 loans, 71 borrowers accounted for 70 percent of the funds. Thirty-five borrowers obtained credit twice in this two-year period, and several individuals obtained anywhere from five to eight loans. The pattern of loan rates suggests that Levy monitored his customers closely, lowering the rate once they proved themselves by repaying the first loan and raising the rate if they were observed to borrow too heavily.

Was A. Levy's bank special? In Ventura County, several other banks competed for customers. None of Levy's customers could have entered the national commercial

paper market, although they might have sold a promissory note to someone locally. Achille Levy, the banker on horseback, was very much like the banker of modern theory whose role is to overcome the asymmetry of information between borrower and lender. His intimate knowledge of local business—gained from his daily contacts, monitoring of customer accounts, and frequent travels around the county—enabled him to do a close evaluation of loan prospects. He knew enough about his clients that he could offer them unsecured credit and have only seven out of 330 loans fail to pay him back in full. The fact that most of these were one-day loans, for which, in theory, full payment could have been demanded the next day, may have disciplined some borrowers. Levy did not attempt to earn funds from a maturity mismatch. In principle, to the extent that his depositors and creditors might run on his bank, he could have liquidated his loans very rapidly.

### *The Emigrant Savings Bank*

The Emigrant Industrial Savings Bank (EISB) was incorporated in 1850, thanks largely to the efforts of John Hughes, Catholic Bishop of New York. Hughes prevailed on a group of 18 prominent citizens, most of them Irish-born, to organize a safe deposit institution aimed at encouraging thrift among poor Irish immigrants. The EISB was one of a score of mutual savings banks set up in New York before the Civil War and founded with strong philanthropic motives. While these banks did encourage the savings habit, they also were operated on a sound commercial basis (Olmstead 1976).

The EISB was one of the largest mutual savings banks in New York City. It was limited by its charter to invest in bonds and mortgages worth double the amount lent. About half its earning assets were invested in mortgages. The mortgages are recorded in the Bond/Mortgage Principal and Interest books deposited in the New York Public Library. To date, in a joint study with Cormac O'Grada, we have col-

lected information on all the mortgages made between 1866 and 1877. While the depositor base remained firmly Irish and Irish-American, loans were not as restricted. They were made to individual home buyers, to developers, and to religious organizations. Loans to religious organizations accounted for 7 percent of the total and 25 percent of the value of loans made by EISB. The developers are hard to identify, except when they took out multiple loans on adjacent plots. According to this method of identification, 16 percent of the loans, accounting for 10 percent of the value of all loans, were given to developers. Most loans were made for Manhattan property, and the average loan size was \$10,574 for the 894 loans examined.

One striking feature of the EISB loans, in contrast to modern mortgages, was the lack of any provision for amortization and the absence of any stated maturity date. For most loans, borrowers simply paid interest until they were able to pay off the balance, although some made irregular payments on the principal. For approximately the first dozen years, the mortgage rate was set at 7 percent, the legal maximum; but when interest rates declined, the semiannual payments were reduced to the new rate. Borrowers appear to have paid off the loans when they saved up enough to pay the principal. Table 6 shows the maturities for the 894 mortgages made over 11 years. While 29 percent of the mortgages by number and 32 percent by value lasted more than 20 years, a very large fraction had maturities of under 10 years or even five years. No one group of borrowers—residential, religious, or commercial and industrial—stood out as taking shorter or longer mortgages.

The EISB was a careful and prudent investor, and there were very few defaults on its mortgages. All properties were local and appear to have been carefully identified, recorded, and examined before any loan was made. Mortgages were given for only 50 percent of the value of the property, offering the bank ample protection. Bolles' recommendations for prudential savings-bank management

Table 6

Maturity of EISB Mortgage Loans

Years	Number of loans	Percent	Dollar value (thousands)	Percent
0 to 4	183	20.5	1,795	23.4
5 to 9	214	23.9	2,814	36.7
10 to 14	155	17.3	1,481	19.3
15 to 19	85	9.5	921	12.0
20 and over	257	28.7	2,444	31.9
<b>Total</b>	<b>894</b>	<b>100.0</b>	<b>7,660</b>	<b>100.0</b>

appear to have been carefully followed. Although the maturities for the 1895 census study were, on average, shorter for the whole nation, the average for the Northeast—six years—falls within the modal range for the EISB. The EISB was faced with a maturity mismatch because it was funded with savings deposits that were typically kept open only a few years. However, the EISB invested a substantial fraction of its portfolio in call loans and bonds, which allowed it to meet rapid decline in deposits in periods of panic.

## CONCLUSIONS

Exemplifying the characteristics that are believed to make banks “special” today, banks in the late nineteenth century were the dominant intermediaries. For small, medium, and even many large borrowers, banks were the only financial institutions that offered credit. In the absence of well-established methods of accounting to measure business performance, banks’ intimate knowledge of local business and local business conditions was essential to collecting information and monitoring borrowers. The modern attributes of banks as special lenders were formed principally during the post-Civil War shift from two-name to single-name paper, when banks began to concentrate on the analysis and monitoring of the borrower rather than the examination of the underlying transactions and endorsers of the bills. This development also increased the

number of loans backed by collateral, since lenders who knew less about their borrowers needed some kind of protection. Although banks did not have as many near-competitors as they have today, they did compete with the commercial paper market in the creation of short-term credit. Attempting to provide customers with sufficient capital, in spite of regulatory restrictions and real-bills strictures, banks offered considerable medium-term loans, although their maturity periods were shorter than those of most such loans in the middle of the twentieth century.

The long twentieth-century decline of commercial banks from their position of preeminence has been told, partly, as the result of regulatory disadvantage. However, the decline may also be explained as the consequence of technological improvements, including established accounting standards for business and specialized management procedures for assessing borrowers’ financial information. The rise of credit analysis services and the building of credit departments in banks and commercial paper houses improved banks’ ability to gauge the creditworthiness of borrowers. These developments set the stage for further improvements in information collection by other intermediaries and markets. The dominant position of commercial banks among financial intermediaries in the late nineteenth century may thus be interpreted as the best solution to the asymmetric information problem between borrowers and lenders when there were few technologically



feasible alternatives. The twentieth-century decline in the prominence of banks as intermediaries can be traced back to the development of alternative markets and the improvement of information collection that began during the National Banking Era.

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