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5 Information Problems and Banks' Specialization in Short- Term Commercial Lending: New England in the Nineteenth Century

Naomi R. Lamoreaux

In their relations with the external world, banks face two basic kinds of information problems: ascertaining the creditworthiness of those to whom they loan their funds, and convincing those from whom they obtain funds of their own creditworthiness. This essay uses the historical experience of banks in nineteenth-century New England to explore the interaction between these two kinds of information problems and the policies bankers adopted in granting loans. I argue that as credit markets grew increasingly large and impersonal over the course of the century, bankers found it more and more difficult to evaluate the financial standing of potential borrowers and also to inform depositors and investors about their own performance. These new difficulties forced banks to alter the way in which they conducted their business and, as a consequence, the role they played in the larger economy. Whereas in the early part of the century, banks had loaned funds for a variety of purposes, including investments in fixed capital, by the end of the century they mainly specialized in the business of short-term commercial and brokers' loans, leaving loans for

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long-term purposes to other types of intermediaries. Although banks continued to support capital formation by granting credit to brokers on the collateral of stocks and bonds, they no longer had any direct relationship with the firms that issued the securities. As a result, as banking operations became more specialized, banks lost their ability to monitor and influence the businesses upon whose prosperity the value of their portfolios depended.

5.1 Insider Lending by Early-Nineteenth-Century Banks

In order to analyze this process of transformation, one must understand how banks functioned in the first half of the nineteenth century. Compared to their modern counterparts, the operations of early banks were very simple, and bank management usually consisted of only a few salaried employees. The largest institutions might be staffed by a cashier, several tellers and clerks, and perhaps a bookkeeper; the smallest might employ only a cashier. But regardless of size and number of employees, the real locus of power in an early-nineteenth-century bank was its board of directors, one of whose members served as president. Committees of directors supervised the day-to-day business of the bank, often involving themselves in minute operational details. More important, the directors were responsible for determining the bank's lending policy: they decided how much money the bank could afford to loan and which borrowers were deserving of funds.¹

If one examines the lending policies pursued by these directors, one discovers that early banks differed from modern institutions in a very striking way: the bulk of their loans went to directors or to other insiders. For example, at the Pawtuxet Bank (chartered in Warwick, Rhode Island, in 1814), a list of notes discounted from the early 1840s shows that fully 53 percent (by value) belonged to James Rhodes, the partnership J. Rhodes and Sons, or various manufacturing enterprises associated with the partnership of C. and W. Rhodes. James Rhodes was both president and a director of the bank until his death in 1841, and his brothers, Christopher and William (the principals of C. and W. Rhodes), also served from time to time as directors, with Christopher succeeding to the presidency upon James's death. Other members of the bank's board of directors absorbed an additional 16 percent of the loans.² Similarly, at the Wakefield (Rhode Island) Bank, chartered in 1834, the obligations of two local manufacturers, Samuel Rodman (a director) and Isaac P. Hazard (a kinsman of Rodman and several other directors), accounted for 54

1. This generalization is based on my reading of the records that are extant for a number of early banks in Massachusetts and Rhode Island (see also Redlich 1947, 18–20).

2. These totals probably understate the proportion of notes discounted for the benefit of insiders, because they are based on information about promisors only. The names of endorsers were not included in the records (Directors' and Stockholders' Minute Book, 1815–85, Pawtuxet Bank, Rhode Island Historical Society Manuscript Collections, Rhode Island Historical Society Library, Providence).

percent of the discounts outstanding as of 1 March 1845. Notes involving members of the three interrelated families that controlled the bank (the Rodmans, Hazards, and Robinsons) accounted altogether for 84 percent of the bank's total loans.³

Investigating the situation in late 1836, Rhode Island's banking commissioners found that insider lending was a widespread phenomenon. "At two of the [Providence] banks lately visited," they reported, "one half of the whole amount respectively loaned by them, was discounted for the accommodation of the directors, and of copartnerships of which they were members. At a third, three-fifths of the aggregate loans went into similar hands." Indeed, as a result of their investigation the commissioners were forced to conclude that the practice of insider lending had become so pervasive that banks were "to a considerable extent mere engines to supply the directors with money."⁴

New Hampshire's bank commissioners arrived at similar conclusions (Smith 1967, 233–34), as did their counterparts in neighboring Massachusetts. In 1838, for instance, the Massachusetts state legislature passed a law offering special privileges to any bank that would restrict its loans to directors to 30 percent of its capital stock, unless shareholders expressly authorized higher limits. Of the state's nearly 120 banks only 29 (including only 2 in Boston) accepted this condition. As for the rest, upon examining their books the commissioners noted, "The liabilities of the directors in most of the Banks, which have not accepted the Act, are above the limits established by the law" (Massachusetts, General Court 1839, 13–14). Nor were regulators alone in this assessment; bankers themselves admitted that directors frequently turned to their own institutions for loans. Indeed, Boston banker Thomas E. Cary attempted to justify the practice in 1845: "It would certainly be advisable that bank directors should be men of property, retired from business, who never wish to borrow money. But this cannot be. Such men can but rarely be induced to trouble themselves with engagements of this nature, and the duty of lending from the bank is left to be performed, in most cases, by those who are borrowers themselves" (Cary 1845, 13).⁵

3. These figures, which include appearances in the records as both principals and endorsers, are probably underestimations, because sloppy (or perhaps deceptive) bookkeeping practices appear to have hidden additional loans to these individuals (Bill Book A, Wakefield Bank, Rhode Island Historical Society Manuscript Collections). See also Directors' and Stockholders' Minute Book, 1834–65, Wakefield Bank, Fleet National Bank Archives, Fleet National Bank, Slater Trust Branch, Pawtucket, RI; and Robinson (1895).

4. Rhode Island, General Assembly, *Acts and Resolves* (January 1837), 89–92.

5. All of the New England states at some point required banks to report to the legislature the percentage of their discounts that went to directors, but these figures were typically so understated as to be virtually useless as indicators of the extent of insider lending. In the first place, vague reporting requirements and a lack of standardized accounting procedures allowed banks considerable leeway in compiling their reports. Second, the totals did not include loans to relatives or business associates of directors. Nor did they include loans to corporations with which the directors were connected. As a consequence, there was often a large discrepancy between the amount of loans a bank officially reported to the legislature and the extent of insider lending actually indicated by its books. In 1828, for example, the Eagle Bank of Bristol reported to the Rhode

5.2 Banks as Vehicles for the Accumulation of Capital

It might be hypothesized that the prevalence of insider lending in the early-nineteenth-century economy was a consequence of the scarcity and poor quality of economic information, that because of the difficulties inherent in obtaining reliable data about the financial standing of strangers, bankers restricted their lending to borrowers whose businesses they knew well—their own and those of close relatives and associates. As we shall see, this argument has some validity, but it is unlikely that it completely explains the practice. Many of the banks with concentrated loan portfolios were located in small country towns, where lenders would have been familiar with the business standing of most would-be borrowers—outsiders as well as insiders. That some of these local, outside borrowers might also be deserving of credit is suggested by the records of the Sutton Bank in southern Massachusetts, one of the few cases I have found for which complete lists of applicants for loans (as opposed to just lists of recipients) are extant. In March 1829, for example, the bank received applications for discounts totaling \$10,210.36, but approved only a quarter of that amount. Markings on the records indicate that most of the rest of the notes were denied not for lack of creditworthiness, but instead were “laid over” for lack of funds. At the same time, members of the family that controlled the bank (the Wilkinsons) owed more than \$80,000, nearly 90 percent of its outstanding loans. The bank lacked funds to lend to others in the community for the simple reason that the Wilkinsons had already absorbed most of its resources.⁶

A more powerful explanation for the prevalence of insider lending was the general scarcity of credit in this capital-poor economy, a scarcity that induced bank directors to take advantage of their positions of authority to channel funds into their own enterprises. Evidence that has survived from several of the region’s pioneering banks indicates that their early years were fraught with conflict, as directors with a broad sense of public purpose struggled for control against those seeking to make personal use of the institutions. For example, at the Massachusetts Bank, chartered in 1784 as the first bank in the

Island legislature that it had loaned 18 percent of its funds to directors, yet an examination of its records for this period shows that directors were principals on 30 percent (by value) of the notes it discounted, and endorsers on another 25 percent. The Pawtuxet Bank’s report to the general assembly in 1842 indicated that its loans to directors amounted to a mere 6 percent of the total, while the Wakefield Bank’s report for 1845 showed directors receiving only 14 percent of the loans. Similarly, at approximately the same time as Rhode Island’s bank commissioners were finding extensive evidence of insider lending, the maximum proportion of loans to directors reported in the official bank returns was 35 percent (Draw Account Book, Eagle Bank, Fleet National Bank Archives; Rhode Island, General Assembly, *Acts and Resolves*, May 1828, 37a; May 1837, 42a; June 1842, 16a; and October 1845, 40a). Additional evidence on insider lending is scattered throughout this article. See also Lamoreaux (1986) and Beveridge (1985).

6. Applications for Discount, 1828–30, Sutton Bank, MSS 781, Baker Library, Harvard University Graduate School of Business Administration.

region, a group of the original proprietors used their influence to borrow extensively from the bank and to insist that their loans be renewed at will. By the summer of 1785, this behavior had left the bank short of funds, and a reform coalition headed by William Phillips forced the recalcitrant borrowers to sell their stock and withdraw from the institution. Elected president of the bank the next year, Phillips initiated a series of policy changes that prohibited renewals and limited the amounts that any one individual could borrow. The result of these changes can be seen in a list of the bank's discounts for March 1788. By that time only about 17 percent of total loans (by value) went to directors or others with the same last name. Similarly, by 1792 the bank was able to report to the state that its loans to stockholders amounted to a mere 23 percent of capital stock (and therefore even less of total loans). Most of its borrowers, the bank claimed, were "opulent Merchants of extensive business and credit, but a small part of whose property is in the funds of the Bank."⁷

By contrast, in the case of the Providence Bank (chartered in 1791 as the first bank in Rhode Island), the reformers seem to have lost out. Discount records for 1793 and 1798 show the bank's directors getting 75 to 80 percent of the loans, despite the efforts of Moses Brown, the self-appointed conscience of the directors.⁸ As late as 1811 Brown was still criticizing the bank's other directors, decrying their laxity in collecting past-due debts from, and granting overdrafts to, themselves, and also complaining about their reluctance to let him see the bank's books: "I have call'd on the Officers a number of Times Since to know if the Accts were ready for My Examination. the period has never yet Arived, the reason Suggested for the Delay by the Officers was their not having time."⁹

In other cases, there is evidence of conflict between contending groups of directors, each seeking to use the bank's resources for its own benefit. For instance, around 1810 Eli Brown, a former director of the Hillsborough (New Hampshire) Bank, submitted a petition to the legislature in which he complained that the bank's bylaws had enabled its directors "to fix themselves in power beyond a possibility of removal, and in secret conclave, to manage the business of the Bank for their own private emolument." Denying the charge, director Samuel Bell claimed that he had lost more than he had gained through his connection with the bank, partly because of the heavy debts that Brown himself had incurred when he was a director and that he was now trying to evade by fraudulently conveying his property to other parties (Bell 1810 or 1811).

7. Gras (1937, 26, 53–54, 78, 263, 268–69, 273–76); Discount Book, 1786–88, Massachusetts Bank, Bank of Boston Archives, Bank of Boston, Boston.

8. Discount Book, 1791–93, and Notes and Bills Discounted, 1798, Providence Bank, Fleet National Bank Archives.

9. Letter from Moses Brown to the board of directors of the Providence Bank, 29 September 1811, Moses Brown Papers, Rhode Island Historical Society Manuscript Collections.

Surviving minutes of stockholders' meetings display periodic hints of these struggles for control. The normally placid and poorly attended events would suddenly attract a large turnout, and instead of following the usual practice of reelecting the existing board, the stockholders would split their votes among a number of contending candidates. Sometimes a new group would win election.¹⁰ One of the functions assumed by the regulatory boards that state legislatures began to create during the 1830s was to mediate these struggles for control. Thus, stockholders of the City Bank of Providence, Rhode Island, sought the intervention of the state's bank commissioners in 1837, complaining that the present directors had planned an underhanded scheme to insure their reelection at the next annual meeting.¹¹

Groups that were excluded from control of a bank often sought to form institutions of their own. Indeed, as many contemporary writers commented, one of the primary forces driving the expansion of the banking system in the early nineteenth century was the desire to gain privileged access to credit (Appleton 1831, 19; Williams 1840, 16; Rhode Island, General Assembly 1826, 24). By founding his own bank, a businessman not only assured himself a source of funds but at the same time created an effective vehicle for the accumulation of capital. Once a charter for a bank was secured, the rest was easy. Incorporators could subscribe for a controlling interest in the stock, and when the payment for the stock came due, they could borrow the requisite sum from another institution. These loans were easy to obtain, because they were essentially riskless: as soon as the state regulators satisfied themselves that the new bank's capital stock had actually been deposited, the investors could borrow back the money they had tendered for their stock (even using the stock itself as security), and repay the original loan.¹²

At this point, of course, the new bank had virtually no resources to lend to its proprietors, since a large proportion of its capital stock was fictitious. Some funds could be raised by issuing currency, but the Suffolk system limited the amounts that could be obtained in this way by forcing the bank to maintain a deposit of specie to redeem its notes. Deposits by customers, moreover, were not yet an important source of funds for the banking sector (see the balance sheet in table 5.1). In the early nineteenth century banks raised funds

10. See, for example, minutes of the stockholders' meetings of 3 and 12 December 1849, Directors' and Stockholders' Minute Book, 1833–55, American Bank of Providence, Rhode Island Historical Society Manuscript Collections; Directors' and Stockholders' Minutes for 1834 and 1835, People's Bank of Roxbury, MA, Bank of Boston Archives; and Stockholders' Meeting, 6 October 1829, Stockholders' Minute Book, 1825–64, Bunker Hill Bank, MSS 781, Baker Library, Harvard University Graduate School of Business Administration.

11. Letter from Anthony B. Arnold and Caleb Carter to the Rhode Island Bank Commissioners, 2 July 1837, Shepley Collection, vol. 8, 57, Rhode Island Historical Society Manuscript Collections.

12. Legislative investigations generated detailed information about such financial practices, especially in Massachusetts, where a number of newly chartered banks failed in the aftermath of the panic of 1837. See, for example, Massachusetts, General Court (1838, 9–14), and (1840, 28–29). See also Rhode Island, General Assembly (1826, 30–32); and Stokes (1902a, 36).

Table 5.1 Balance Sheet for Massachusetts Banks in 1835 and 1890

	1835 (%)	1890 (%)
Liabilities		
Capital stock	54.0	26.2
Bills in circulation	16.7	4.4
Deposits	21.2	45.5
Due to other banks	6.2	12.8
Other	1.9	11.1
Assets		
Loans and discounts	85.9	68.5
Specie	2.0	4.0
Due from other banks	6.7	11.9
Other	5.4	15.6

Sources: Massachusetts, Secretary of the Commonwealth (1835); U.S. Congress, House (1890), 252–53.

primarily through the sale of stock, for which, as we will see, there were many willing purchasers. As a result, once the original investors had stabilized their bank's position, they were usually able to sell off some of their shareholdings. The proceeds from the sale might be used to repay their stock loans at the bank, or else they could pocket the money and substitute some new security (usually an endorser) in place of the stock, in this manner perpetuating their lines of credit. Over time, as the bank established a market for its securities, they could raise additional funds by increasing the bank's capitalization and selling new shares.

Records of the Eagle Bank of Bristol illustrate the ease with which organizers could unload their investments. When the bank was chartered in 1818, large blocks of stock were bought by members of the DWolf family, as well as other prominent citizens of the town, most of whom promptly borrowed back their purchase money on the security of the stock itself. The bank's transfer book shows that, over the next few years, some of these early investors sold off a substantial portion of their holdings. By 1823, for example, Robert Rogers, Jr., had reduced his holdings from 300 shares to 146, Charles DWolf, Jr., from 320 to 143, and George DWolf from 250 to nothing (though he retained liberal borrowing privileges at the bank through the influence of other family members). Minutes of the directors' meetings show that these men were usually not required to repay their stock loans when they sold their holdings, but instead were allowed to offer new security in the form of an endorser. Hence, through this series of transactions, they were able to transform their initial promise to buy stock into wealth (equal to the amount of the stock they later sold) and, at the same time, maintain an equivalent line of credit.¹³

Subsequent losses caused by the failure of George DWolf and his associates

13. Directors' and Stockholders' Minute Book, 1814–46, Stock Transfer Book, 1818–84, and Stock Book, 1818–1900, Eagle Bank, Fleet National Bank Archives.

prevented the Eagle Bank from proceeding to the next stage and raising its capitalization, but the histories of other banks show how successful this strategy of accumulation could be. When the American Bank of Providence was chartered in 1833, for example, it issued only \$193,000 of its authorized capital stock of \$500,000. Two years later, however, the bank's stockholders voted to increase its capitalization to \$300,000. In 1839 they voted to raise it once again, this time to \$400,000, and in 1845 to \$500,000. In 1851 the stockholders petitioned the general assembly for permission to increase the bank's authorized capital to \$1,000,000, and state banking records indicate that a mere four years later American's paid-in capital amounted to \$983,750. The bank's stockholders thereupon submitted another petition to the legislature—this time to increase the capitalization to \$2,000,000.¹⁴

Nor was this an isolated example. In Boston alone eleven banks were able to increase their initial capitalization by at least 50 percent between 1820 and 1850. In the rest of the state, forty-two banks had a similar record. All in all, New Englanders displayed an impressive willingness to put their savings into bank stock during this period. The amount invested in the region's banks increased 101 percent during the 1830-to-1837 boom and another 97 percent during the expansionary 1850s. Over the entire period 1820 to 1860, investment in bank stock registered more than a sevenfold increase (see table 5.2). To put these numbers in perspective, the stock of manufacturing capital increased only 63 percent over the decade of the 1850s. By 1860 the paid-in capital of the region's numerous banks amounted to nearly half the accumulated stock of manufacturing capital in the region (Massachusetts, General Court 1850, 4–19; Fenstermaker 1965, 186–247; Sylla 1975, 249–52; U.S. Census Office 1854, 179; U.S. Census Office 1872, 798).

5.3 Banks as Investment Clubs

The rapidity with which capital flowed into bank stock in this period is intriguing, particularly given the extent to which banks engaged in insider lending. We know that the practice was common knowledge. Newspaper editorials and pamphlets harangued about it, government commissions investigated it, and state legislatures repeatedly tried to limit it (Lamoreaux 1989a). Why then were investors not scared away? Why did they not worry that bank directors would allow their judgment to be clouded by their own need for funds—would channel excessive amounts of loans into their own enterprises?

One reason why reports of insider lending had so little effect on the flow of capital into banking was that many large purchases of bank stock were made by insurance companies, savings banks, and other institutions whose investment decisions were controlled by the same groups of men who dominated

14. Directors' and Stockholders' Minute Book, 1833–55, American Bank of Providence; Rhode Island, Secretary of State (1855, 5).

Table 5.2 Number and Paid-in Capital Stock of Banks in New England, 1820–60

Year	Maine	Massachusetts	New Hampshire	Rhode Island	New England ^a
1820	1.65 (15)	10.60 (28)	1.00 (10)	3.06 (31)	16.82 (87)
1830	2.45 (18)	19.30 (63)	2.10 (21)	6.07 (46)	34.77 (172)
1837	5.46 (55)	38.28 (129)	2.84 (27)	9.85 (62)	66.44 (323)
1850	3.10 (32)	34.63 (119)	2.19 (23)	11.21 (61)	62.87 (300)
1860	7.51 (68)	64.52 (174)	5.02 (52)	20.87 (91)	123.56 (505)

Sources: Fenstermaker (1965), 186–247; Sylla (1975), 249–52.

Note: Numbers of banks are in parentheses. Capital is in millions of dollars.

^aIncludes Connecticut and Vermont.

the banks. Thus the Providence Insurance Company, controlled by the Browns, was by 1814 the largest stockholder in the Providence Bank, also controlled by the Browns. Similarly, the Rhode Island Insurance Company, chartered in 1803 in association with the Newport Bank, owned half the latter's stock. More generally, legislatures often deliberately chartered insurance companies in conjunction with specific banks. They also frequently granted charters for savings institutions to groups that had already founded commercial banks, with the two organizations sharing a building, clerical staff, and more importantly, many of the same officers and directors. These arrangements were so prevalent by the 1850s that Massachusetts' banking commissioners expressed reservations about them. In Rhode Island, as late as 1870, nine of the eleven savings institutions in the city of Providence each shared at least four directors with a commercial bank; for these nine, the average number of common directors was seven. Finally, other capital-accumulating institutions also established interlocking directorates with banks. In addition to being president of the Pawtuxet Bank, for example, James Rhodes was president of the Rhode Island Society for the Encouragement of Domestic Industry, an organization that invested heavily in his bank's stock.¹⁵

But interlocking directorates between banks and other institutions cannot completely explain the flow of capital into banking, because many individuals and institutions without such connections were also heavy purchasers of bank stock. In 1840, for example, bank regulators in Maine published complete

15. Directors' and Stockholders' Minute Book, 1815–85, Pawtuxet Bank. Lists of directors were taken from the *Providence Journal*, scattered issues throughout 1870, the *Providence City Directory* (1870), and the *Rhode Island Business Directory* (1872). See also Stokes (1902a, 15–16); Redlich (1947, 32–33); and *Bankers' Magazine and Statistical Register* 3(May 1854):871. For a discussion of the interlocking directorates employed by the Boston Associates to raise capital for their businesses, see Peter Dobkin Hall (1974–75).

lists of the stockholders of each bank in the state. Analysis of these lists shows that on average only 35 percent of a bank's stock was owned by directors, other individuals with the same last name, and local institutions whose boards of directors might overlap with the bank's. Although some individuals whose last names differed from those of the directors might also have been closely associated with the board, these results suggest that a large proportion of each bank's capital stock was held by outsiders (Maine, Legislature 1840a, 1840b).

Banks could, of course, compensate outside investors for any risks that might be associated with insider lending by offering them a higher rate of return. Bank stock did pay reasonably good dividends during this period. For example, based on the par value of their stock, Boston banks paid out 5.64 percent per year on the average over the period 1831 to 1845, despite the long depression that began in 1839. During the next decade and a half their dividends averaged 7.31 percent per year, while the dividends of country banks in Massachusetts averaged 7.24 percent over the same period. Rhode Island banks paid dividends averaging 6.7 percent per year from 1837 to 1860. Maine banks paid 7.27 percent per year between 1850 and 1859. New Hampshire records are incomplete, but they suggest dividends in excess of 7.5 percent over the decade 1846 to 1855 (Martin 1898, 98–99; Stokes 1902b, 320–21; Rockoff 1990, 32; New Hampshire, Bank Commissioners 1846–56).

These dividend rates were by no means spectacular, however, and indeed it is questionable whether they were high enough to have compensated investors for much in the way of added risk. J. Van Fenstermaker, R. Phil Malone, and Stanley R. Stansell calculated the returns that could be earned on the stock of Boston banks evaluated at actual market prices. Although shrewd investors who bought stock at the lowest recorded price in a given year and then sold it at the next year's highest price could do very well, on the average the rate of return that investors could earn on bank stock was less than the yield on comparatively riskless instruments such as Massachusetts municipal securities or U.S. government bonds (Fenstermaker, Malone, and Stansell 1988). Investors who bought their stock at the time of the initial offering, when prices were usually low, undoubtedly earned significantly higher returns. Nonetheless, the existence of a market for the stock at prices that reduced yields to the level of comparatively riskless securities suggests that, insider lending notwithstanding, bank stock seems to have to have been perceived as a safe repository for funds.¹⁶

Other evidence confirms this supposition. Bank stock was one of the few securities in which Massachusetts allowed its savings institutions to invest their deposits during this period. In addition, so common was it for men to buy stock with an eye to the future needs of their widows and orphans, that by 1851, about a quarter of the stock of Massachusetts banks was held by

16. Preferential access to credit may have been another incentive to buy stock, but bank records show that most small shareholders never borrowed from their banks.

women, guardians, trustees, and administrators of estates (Massachusetts, General Court 1836, 319, and 1851, 94). Bankers, moreover, seem to have deliberately cultivated this image of safety for their stock. During times of low earnings they were reluctant to cut dividend rates, sometimes, as Massachusetts' bank commissioners repeatedly complained, dipping into surplus resources in order to sustain dividends at a level in excess of current earnings (Lake 1932, 168–70).

If insider lending was really perceived as a danger, moreover, stockholders could have done something about it. Virtually all bank charters in this period gave disproportionate power to small investors by limiting the number of votes that those with large numbers of shares could exercise. In addition, as time went on the rights of stockholders who were not directors received more explicit protection. For instance, in 1840 a Massachusetts statute limited to ten the number of proxy votes a director or bank officer could cast; other stockholders were permitted up to fifty. In 1843 the legislature also granted stockholders the right, upon the vote of at least one-eighth of their members, to investigate the soundness of their bank. Finally, in 1851, the legislature put the state's bank commissioners at the service of stockholders. Whereas previously only the commissioners themselves (or the governor) could trigger a bank examination, now a request from five stockholders was sufficient to compel the commissioners to "make a full investigation of the affairs of such corporation."¹⁷

Occasionally, stockholders did make use of their powers to regulate insider lending by directors. At the Atlantic Bank of Boston, for example, they passed bylaws specifying that "no loan shall be made to, nor any money deposited with, any Director, under any colour or pretence whatever, free of interest, or at less rate of interest than is required of other persons generally." They also prohibited loans to directors "without other security, than the obligation or responsibility of any one Director and his partner or partners in trade," and forbade directors to overdraw their accounts. After the panic of 1837, the bank's stockholders responded to a rash of bank failures in the state by voting to limit loans to any one individual or firm to 15 percent of capital. They also voted to appoint annually a committee of "Stockholders who are not Directors" to examine the books of the bank.¹⁸

Such activism was relatively rare, however. Minutes of annual meetings show that stockholders almost never challenged their directors' decisions about lending policy or, for that matter, anything else. Moreover, not only did they generally display little concern about insider lending; there is evidence that they positively approved of the practice. After 1851, Massachusetts law

17. Massachusetts, General Court (1836, 308–20); Massachusetts, *Laws*, 14:302–6, 515–17; Massachusetts, *Acts and Resolves* (1840, 208; 1843, 56–58; 1851, 625–28).

18. Stockholders' Bylaws, 18 March 1828, Stockholders' Meetings, 1 October 1838 and 5 October 1840, Stockholders' Minute Book, 1828–64, Atlantic Bank, Boston, MA, Bank of Boston Archives.

required stockholders to ratify by a formal vote loans to directors in excess of the statutory limit of 30 percent of the bank's capital stock. Surviving records suggest that stockholders willingly granted such approval. Even at the Atlantic Bank they voted repeatedly to raise the limit to 50 percent of capital.¹⁹

The indulgence with which stockholders treated insider lending is easier to understand once one appreciates the importance of reputation in this information-scarce economy. A glance at the credit reports collected by R. G. Dun and Company, for example, shows that character could be as important as net worth in eliciting a favorable rating. Men who were considered good credit risks were typically described in the reports as "honorable," "trustworthy," and "prompt" in their payment of debts. Conversely, those who got into financial difficulties and defaulted on their obligations might never regain the trust of the business community. Credit reports often ended with an individual's failure, the absence of subsequent entries symbolically recording the borrower's financial death. In the relatively rare event that the listing continued, it was typically full of warnings—"unsafe," "careless of credit," "improvident"—and the resulting inability to raise funds led almost inevitably to a subsequent failure.²⁰

Not surprisingly, businessmen went to great lengths to safeguard their reputations, sometimes to the extent of taking on debts that they had no real legal obligation to pay off. John James Dixwell, president of the Massachusetts Bank, is a case in point. He had encouraged the bank to loan substantial sums of money to the Boston Brick Manufacturing Company, where he was also president. When the company failed in 1855, Dixwell felt that it was incumbent on him to assume its obligations to the bank, even though he was not a signatory on any of its notes. The other directors accepted the payment, expressing "the highest respect for that delicate sense of honor" which their president had displayed. Dixwell's reputation survived the incident intact, and he was able to retain his position at the bank, serving as president for almost two decades more (Gras 1937, 128, 494–95, 502–4).

As Dixwell's case suggests, bankers' regard for their own reputations could operate to protect the interests of stockholders. In addition, the fact that banks in this period were for all practical purposes group-managed enterprises, whose directors collectively assumed responsibility for allocating loans, enhanced the workings of this mechanism. If one director overextended himself and endangered the institution by borrowing excessive sums of money, all of the others stood to suffer. Not only would a bank failure cost them their pre-

19. Stockholders' Meetings, 4 October 1852, 3 October 1853, and 2 October 1854 (*ibid.*). See also the annual October meetings of the Shoe and Leather Dealers' Bank of Boston from 1852 to 1859, *Stockholders' Minute Book, 1836–64*, Bank of Boston Archives; Gras (1937, 122); Warner (1892, 13–14); National City Bank of Lynn, MA (1904, 36).

20. For examples, see Rhode Island vol. 2, 63; vol. 9, 121, 176, 393, 403; vol. 15, 51, 53; in R. G. Dun and Company Collection, Baker Library, Harvard University Graduate School of Business Administration.

ferred access to credit, but it threatened their reputations as well. As a result, bank insiders might be expected to monitor closely each other's borrowing habits. Given the poor quality of information in this period, moreover, such monitoring of insiders by insiders may actually have been less risky than extending credit to perfect strangers. Although bank directors might have occasionally given way to temptation and loaned too much of their funds to themselves, they also had much more information about the businesses of those with whom they were personally connected—information that enabled them to make more informed decisions about loan amounts than they could in dealing with strangers. Over the long run, this information advantage could lower losses from bad debts, as Andrew Beveridge found when he studied insider lending at the Cheshire Provident Institution for Savings in Keene, New Hampshire. Over the period 1833 to 1897, Beveridge calculated, 98 percent of all funds loaned to people who were personally connected with the bank were paid back, as opposed to 90 percent of all other loans (Beveridge 1985, 402).

Finally, in order to understand the willingness of stockholders in this period to condone insider lending, one must appreciate the role banks played in providing small investors with a safe way to participate in the gains from industrialization. The great textile mills of the Boston Associates earned handsome returns throughout this period, but their stock was closely held by members of the group and rarely appeared on the market (Martin 1898, 126). Some of the smaller textile enterprises that sprang up throughout the region were also quite profitable, but many were not, and large numbers of them actually failed. In Rhode Island, for example, approximately two-fifths of the textile mills in the state closed in 1819 and another 15 percent failed in the late 1820s. The latter crisis also brought down many of the state's textile machinery producers (Coleman 1969, 88–89, 91–92, 100–103). Direct investment in these smaller enterprises was a risky proposition and was perceived by investors as such, as is evidenced by the difficulties in raising capital that the few that incorporated themselves had. Thus a corporate charter secured in 1835 by Gamaliel Gay for a silk manufacturing enterprise in Rhode Island never became operational because the firm was unable to attract the necessary support. Most of the other manufacturing corporations chartered in the state in the first half of the nineteenth century suffered similar fates (Coleman 1969, 114–17).

Investments in manufacturing were, in fact, so risky—and also provided so little opportunity for economies of scale—that few entrepreneurs specialized in them exclusively. Most of the men who developed textile mills in the region also invested in commerce, real estate, and/or transportation ventures. It is well known that important merchant groups like the Boston Associates in Massachusetts and the Brown family in Rhode Island followed a strategy of diversification. What is not so often recognized, however, is that many less familiar entrepreneurs pursued similar plans. Thus Samuel Weston and Abner Coburn, founders of the Somerset Bank in Maine, in 1825 had extensive in-

vestments in local mills, timberlands, lumbering, and railroads. Stephen Harris, one of the organizers of the Centreville Bank in Warwick, Rhode Island, had a medical practice, a pharmaceutical dispensary and grocery business, large textile-mill investments, a farm, and a limestone quarry. Similarly, the men that controlled the Cheshire Provident Institution for Savings in Keene, New Hampshire, were involved in a variety of enterprises ranging from textile mills to railroads to local utilities (First National Bank of Skowhegan, Maine 1925, 57, 65–69; Basham 1973, 2–3, 21–23; Beveridge 1985, 396).

The problem, of course, with such a strategy of diversification was that it required considerable amounts of capital—amounts that were typically beyond the reach of all but the wealthiest merchant families. Banks helped to solve this problem for less affluent groups by providing them with the wherewithal to diversify their interests. At the same time, they enabled the men, women, and institutions that purchased their stock to achieve a similar level of diversification by buying what was in essence a share of the group's total investments. Because bank loans in this period were usually secured by the endorsements of respected businessmen rather than by specific items of collateral, they were backed by all the resources (the full diversified portfolios) of both the maker of the loan and his endorser(s).

Of course, the phenomenon I am describing here is in a sense simply the familiar one of financial intermediation. The practice of insider lending gave this well-known banking function an important twist, however, because purchasers of bank stock knew that they were investing in the diversified enterprises of the particular group that controlled the bank—not in some anonymously diversified portfolio. In other words, the practice of insider lending conveyed information to the public about the nature of a bank's investments, and this information enabled investors to make important choices—to decide, for example, whether to pursue the less risky option of entrusting their funds to members of the established elite, or to take a chance with aspiring entrepreneurs.

That investors did indeed make use of such information is suggested by the widely different prices commanded by the stock of each bank in the year immediately following its organization, that is, before it could establish its own earnings record. For example, the initial selling price of the stock issued by the seven banks chartered in Boston in 1836 (par value \$100) ranged from \$75 to \$100, using each bank's lowest quotation, or \$94 to \$100, using each bank's highest (Martin 1898, 97–101).²¹ Over time, of course, the price commanded by a bank's stock reflected its actual record of earnings, but investors' assessment of the character of the group that controlled the bank remained important. For Boston banks in 1854, for example, the dividend record of the past ten years explained only about 26 percent of the cross-sectional variation

21. Martin reported only the highest and lowest quotations for each year. He provided no information about the quantities sold at each price. Nor did he calculate an average price for the year.

in stock prices (compared to a common par value of \$100), using the year's lowest quotations, and 52 percent of the variation using the highest. The addition of a variable for the year in which each bank was chartered (a crude proxy for the character of the bank's directors, since the most prestigious merchants received charters first) added about 15 to 20 percentage points to the explanatory power of the equation, with the oldest banks generally displaying the highest stock prices (see table 5.3). Given the crudeness of the proxy, it is likely that much of the remaining variance can also be explained by differences in the public's assessment of the character of the banks' directors and their business interests.

In sum, although the prevalence of insider lending cannot be explained simply as a response to the scarcity of information in the early-nineteenth-century economy, the practice did have important implications for the flow of information in the economy. Bank managers knew a lot about the business of their primary borrowers—themselves and their close relatives and associates. Moreover, the fact that a large proportion of each bank's loans went to insiders gave potential investors useful information about the kinds of assets that backed up its portfolio. Indeed, it would not be too farfetched to argue that early commercial banks were in essence investment clubs, the counterparts of our modern mutual funds. The sale of bank stock enabled small savers to buy shares in a diversified portfolio of investments whose character differed in important and known ways from one institution to the next. It thus gave small investors a way of participating in the gains from industrialization without

Table 5.3 Determinants of the Price of Bank Stock in Boston in 1854

Independent Variables	Dependent Variables	
	Highest Stock Quotation (1854)	Lowest Stock Quotation (1854)
Constant	338.84*** (4.47)	397.42*** (4.27)
Average dividend rate (1846–54)	4.65*** (7.37)	3.43*** (4.42)
Year bank was chartered	-0.144** (-3.45)	-0.18** (-3.43)
Adjusted R^2	0.623	0.420
F-test probability	0.000	0.000
Number of observations	36	

Sources: Martin (1898, 97–101); Fenstermaker (1965, 139–49).

Note: *T*-statistics are in parentheses.

*Significant at the .10 level.

**Significant at the .05 level.

***Significant at the .01 level.

exposing them to serious risks. At the same time, banks provided entrepreneurs with a mechanism they could use to tap the community's savings and channel the proceeds into industrial development.

5.4 The Decline of Insider Lending

This early-nineteenth-century banking system contained the seeds of its own destruction, however. Economic development and the tremendous expansion that occurred in the number and size of banks transformed New England from a capital-scarce to a capital-rich economy. Development also reduced the risks involved in specialization, making it easier for firms to raise funds for their ventures directly, without the assistance of financial intermediaries. Both of these changes in turn operated to reduce the incidence of insider lending. Since funds were now more widely available, bank directors had less need to draw on their own institutions for loans. Although insider lending by no means disappeared (many directors still used their positions to obtain funds, and some banks continued to operate exclusively in the interests of their directors), records that are extant from the last two decades of the nineteenth century suggest that it was now much more common for insiders to account for less than 20 percent of a bank's total loans.²²

A good example is the case of the Providence Bank, which was dominated for more than a century after its 1791 founding by the interrelated Brown, Ives, and Goddard families. As we have already seen, in the years immediately following its organization, the bank's lendable funds were largely absorbed by insiders. Over time, however, as the region's credit markets matured and the family's textile ventures became themselves important generators of capital, the Browns turned less frequently to their bank for funds. Thanks to the diaries of the Goddard Brothers Company, the firm that managed the Browns' various textile enterprises, the family's relationship with the bank can be followed for the last quarter of the nineteenth century in particularly close detail. William Goddard, a senior partner in the firm, was president of the Providence Bank for most of this period.²³

The diaries show that Brown-family enterprises continued in the late nineteenth century to use the Providence National Bank for a variety of purposes.²⁴ The family's textile businesses kept funds on deposit there, and one of them,

22. Reports of national bank examiners to the comptroller of the currency indicate that directors of Boston banks accounted on the average for about 9 percent of their banks' loans in the early 1890s. These figures did not include loans to relatives or to corporations with which the directors were connected. For specific examples supporting the 20 percent figure that are based on banks' internal records, see Lamoreaux (1989b). The records of the U.S. Comptroller of the Currency, Examination Division, are stored in the National Archives in Washington, Record Group 101.

23. Goddard Brothers Diaries, Brown and Ives Manufacturing Records, MSS 9, subgroup 10, series D, Rhode Island Historical Society Manuscript Collections. See also Hedges (1968, 255–56).

24. Like many other banks, the Providence Bank reorganized under the new National Banking Acts and took a new name, the Providence National Bank.

the Lonsdale Company, routinely had its payroll made up at the bank. The records also show that Goddard Brothers occasionally drew upon the bank for loans, sometimes of substantial size. For example, in November 1879 the diaries record, "We discount at Prov. Nat^l Bank + Prov. Ins for Savings all Bills Receivable due Dec + Jan belonging to Lonsdale + Hope Co." A few years later, in November 1886, the notation appears, "Bk lends all its money to L Co + H Co @ 5%. Money still scarce about here."²⁵

Goddard Brothers was, however, just as likely to be in the position of the bank's creditor, as its debtor. In July 1881 the firm loaned the Providence National Bank \$50,000 on call so that it could meet heavy drafts by the Providence Institution for Savings. A few days later the diaries noted, "The bank does little business as it owes \$150000 to L Co + this is remittance day." In 1889 Goddard Brothers once again helped the bank meet heavy demands by the savings institution for funds.²⁶

Indeed, the general position of the Brown family's enterprises with respect to the money markets was that of a creditor. For the better part of each year, revenue from sales poured into the Goddard Brothers' counting house, and the firm's main problem was to find suitable investment outlets.²⁷ Only during the fall cotton-buying season did the family's enterprises ever have substantial need for credit, but even then they were much less likely to borrow from the Providence National Bank than they were from other institutions, especially in Boston. According to notations in the diaries, Goddard Brothers negotiated loans totaling approximately \$4,479,000 from banks and other kinds of financial intermediaries between 1878 and 1898. Of this amount only about \$333,000 (7 percent) came from the Providence National Bank. Another \$563,000 (13 percent) came from the Providence Institution for Savings, which the family also dominated, and \$740,000 (17 percent) from the Rhode Island Hospital Trust Company, an institution that the family had helped to create but did not control. All of the remainder came from Boston institutions, which supplied the firm with approximately \$2,793,000 in loans, 63 percent of its total borrowing.²⁸

Goddard Brothers turned to Boston banks for loans because, as the diaries suggest, it found interest rates in that city generally lower than in Providence.²⁹ Family members, it seems, would rather borrow out of town at good rates than use their leverage as insiders at the Providence National Bank to

25. Goddard Brothers Diaries, vol. 2, 17 November 1879, and vol. 9, 22 November 1886.

26. *Ibid.*, vol. 4, 26 July 1881 and 1 August 1881, and vol. 12, 23 October 1889.

27. A large portion of the diary entries are taken up with notations of purchases of commercial paper or money loaned on call. But see especially *ibid.*, vol. 8, 24 April 1885, and vol. 12, 13 June 1889.

28. Amounts for three loans (two from Providence National Bank, one from the Providence Institution for Savings, and one from an unnamed Boston institution) were not given. I estimated the missing amounts by calculating the average size of the loans from each source (*ibid.*, vols. 1–21).

29. See, for example, *ibid.*, vol. 1, 23 December 1878, and vol. 21, 24 January 1898.

obtain favorable terms for their enterprises. It seems that they preferred to protect their bank's earnings (and also the dividends on their extensive stockholdings) by loaning out the bank's funds at the market rate of interest to creditworthy borrowers, even to their business rivals. According to an entry for October 1896, "our enemies have been borrowing heavily of Prov Bk. In all they will have taken 50000 each or 200,000 on notes maturing this year at 6%." The diarist seemed pleased with the result, for he went on in the next sentence to note, "The City [of Providence] deposit is very convenient to us." For the Browns, banking had become by the late nineteenth century a business in its own right, an investment to be carefully managed and prized for its good, steady yields.³⁰

The Providence National Bank is perhaps an extreme example of the changes that were occurring in the banking sector, because the Brown family's ventures were so extraordinarily successful that they could command favorable credit terms in Boston as well as Providence. But as the century progressed, an increasing number of banks found themselves for a variety of reasons with resources in excess of the needs of the parties that controlled them and sometimes even beyond the requirements of the local community. Some banks had extra funds because their directors (like the Browns) were able to generate most of their capital internally or could turn to outside sources of funding. Other banks were so successful in attracting lendable resources that they overshot local needs. And sometimes banks had surplus funds because the groups that had originally founded them were no longer actively involved in business, either as a result of business troubles, an inability to pass on the enterprise to the next generation, or some other cause.

Whatever the reason, the appearance of these surplus funds had a snowballing effect that operated to reduce the incidence of insider lending in the economy in general. To the extent that banks had surplus funds that could be loaned to outsiders, the funding opportunities for those who were insiders in other banks increased. Moreover, to the extent that these insiders did in fact turn to other institutions for loans, they freed up funds in their care to be loaned to ventures in which they had no personal interest, which in turn freed up funds at still other institutions for similar purposes.

5.5 The Problem of Collecting Information about Creditworthiness

As banks increased the proportion of funds they loaned to outsiders, the problem of evaluating the creditworthiness of would-be borrowers took on

30. *Ibid.*, vol. 19, 9 October 1896. The Providence National Bank paid dividends of 10 percent from 1870 to 1876, 7 percent from 1877 to 1879, and 8 percent from 1880 to 1900. By 1880, the Brown, Ives, and Goddard family group owned 61 percent of the bank's stock (Directors' and Stockholders' Minute Books, 1865–80, 1880–96, 1896–1915, and Stock Ledger, 1857–85, Providence National Bank, Fleet National Bank Archives).

new seriousness. When bankers loaned their funds primarily to insiders, they dealt with businessmen whose strengths and weaknesses were well known to them. But once bankers began to loan their funds to those with whom they had no personal connections—once they began to accommodate customers in distant communities—they had to develop new ways of distinguishing worthy borrowers from the great mass of applicants.

Bankers attempted to cope with this new information problem in a number of ways. In the first place, they displayed a heightened interest in the business of discounting what was called “real” commercial paper—that is, notes issued in the course of actual commercial transactions (e.g., sales by a manufacturer to a wholesaler). Such loans were considered desirable because (it was believed) they were self-liquidating: once the wholesaler disposed of the goods he had bought from the manufacturer, he would be able to redeem the IOU he had issued to cover the purchase (West 1977, 136–62; Mintz 1945, 206–10). More to the point, such loans were also thought to minimize information problems. Because the manufacturer had to scrutinize the wholesaler’s standing before he would risk his own credit by endorsing the note, bankers felt that it was usually not necessary for them to conduct further credit investigations. As the conservative Chicago banker James B. Forgan instructed an audience of bank employees in Providence, “The strength of the promise is not in this case of prime importance, and need not therefore be as closely considered” (Forgan 1920, 8).

Some commentators went so far as to argue that, because commercial paper bore a one-to-one correspondence to the actual wealth-generating activities of the economy, it was for all practical purposes as good as gold. As one writer explained, “Commodities are, after all, the only things that are really wealth. . . . [I]t is only by convertibility into food, fuel, clothing, and shelter that anything becomes of value. Gold is wealth because of its convertibility; and in the same way, credit is wealth” (Woodlock 1907, 23–24). If credit based on real bills was tantamount to wealth, it mattered little to whom a bank granted its discounts. So long as all the notes in its portfolio were bona fide commercial paper, the bank was safe. Information problems were thus minimized.

By the last quarter of the nineteenth century, however, commercial paper of this type was increasingly difficult to come by. In response to the monetary disturbances of the Civil War era, manufacturers began to encourage customers to pay for goods in cash by offering them price discounts. Buyers responded to these incentives by changing the way they borrowed on the credit markets. Rather than paying for their purchases with an IOU, which the seller then endorsed and discounted at a bank (making it two-name or “real” commercial paper), buyers began to issue IOUs in advance of purchases in order to take advantage of the discounts. The result was a decline in the proportion of real bills on the market and a corresponding increase in what was called single-name paper. Backed only by the promise of the maker, single-name

paper was effectively unsecured and was not directly linked to the completion of any particular commercial transaction. Whether it was a good investment or not depended on the financial soundness of the maker (James 1978, 55–59; West 1977, 157–62).

The shift to this new kind of instrument coincided with the development of a national market for commercial paper, which compounded bankers' problems in evaluating the worth of these notes. In the early nineteenth century borrowers had typically restricted their dealings to one or two local banks, which as a consequence always had a good sense of their customers' total obligations. But now that firms could issue their IOUs through note brokers, who would market them to banks and other financial intermediaries across the country, banks lost their ability to assess a customer's total indebtedness. As an article in *Bankers' Magazine* reminded readers, by negotiating their loans through bill brokers, borrowers were "able to float much more paper in many cases than they could if they depended on one or two banks for funds. Herein is the risk of this new mode of lending money; a bank is utterly at sea concerning the ability of the borrower" (48[July 1893]:163–64).

Banks therefore had to find other ways of coping with their growing information problems. One solution that was commonly adopted was to require borrowers to put up collateral for loans (ibid. 39[August 1884]:113–22). Because the National Banking Acts prohibited banks from loaning on the security of real estate, collateral necessarily consisted for the most part of securities that commanded a ready market on the exchanges. As a result, this type of loan was most useful to businesses that themselves issued marketable securities (the best examples were the railroads—industrial securities were rarely traded on the exchanges before the turn of the century) and for those engaged in the buying and selling of stocks and bonds. But collateral loans could be of only limited use to most other borrowers, for the obvious reason that businesses that had the surplus funds to invest in marketable securities were not likely to be the ones most in need of funds. Not surprisingly, then, despite their obvious advantages for banks, collateral loans remained only a small part of their total portfolios. As late as 1890, 64 percent of the loans granted by Boston's national banks were still based entirely on personal security (U.S. Congress, House 1900, 141).

Another way that banks coped with their growing information problems was to insist that borrowers maintain deposits of a certain minimum size with the bank. While this requirement may initially have been a mechanism that enabled banks surreptitiously to earn interest in excess of the usury ceiling, by the last few decades of the century falling interest rates had made the usury laws increasingly irrelevant. The practice seems to have continued more than anything else for the information it communicated about borrowers' creditworthiness, and for the discipline it imposed on debtors' balance sheets. As one banker argued in *Rhodes' Journal of Banking*, "The best paper to accept

is that offered by firms or individuals who are in the habit of carrying balances with their bank from whom the accommodation should be obtained. There appears to me *no* better means to determine the amount of risk a bank incurs than by regulating its loans according to the average balance carried" (20[May 1893]:486–89). Another banker pointed out that the requirement to maintain compensating balances helped to prevent losses by insuring that customers had a "cash reserve for emergencies" (Forgan 1920, 17).

But the protection that was offered by borrowers' deposits was limited at best. Although the relationship between the deposit and the loan amount varied so much from one institution to the next that commentators were loath to generalize, the ratio was likely to have been small, especially after the competition for deposits heated up in the latter part of the century. Commentators repeatedly complained that banks attempted to lure new depositors by promising them excessive lines of credit (Barrett 1907, 285; Forgan 1920, 17).³¹

In any event, none of the methods thus far described did much to reduce the heavy losses that banks were experiencing in the last few decades of the century. Minutes of directors' meetings reveal that, beginning in the mid-1870s, banks faced soaring numbers of unpaid and overdue loans (the overwhelming majority of them involving outsiders), and bank examiners' reports show no improvement over the remainder of the century.³² Although much of the problem undoubtedly resulted from the rocky state of the economy in this period, bankers were desperate to improve the situation. By the 1890s, they had become convinced that "by far the greater part of losses incurred by banks on commercial paper could have been avoided had their officers been possessed of sufficient information regarding the applicants at the time the loan was asked for."³³

One thing was clear: bankers could no longer afford to base their credit decisions on the general reputation of a borrower for wealth and character. Even country bankers were now likely to be misled by the personal knowledge they thought they had about their borrowers' businesses, as one such banker

31. Bank records are usually silent about these arrangements. The one example I have come across was an agreement noted in the minutes of the Shawmut National Bank, specifying that an out-of-town firm would be granted a line of credit of \$40,000 secured by collateral. It was expected that in return the firm would keep on deposit an amount equivalent to 20 percent of its debt (Directors' Meeting, 27 September 1875, Directors' and Stockholders' Minute Book, 1865–77, Shawmut National Bank, Shawmut Bank Archives, Shawmut Bank, Boston).

32. Only ten of the approximately two hundred problem loans noted in the minutes of six Boston banks between 1880 and 1900 could be traced to the banks' directors. The banks were Atlantic National, Boylston National, Commercial National, Faneuil Hall National, Fourth National, and National City. The records of these banks are all in the Bank of Boston Archives. I traced the firms whose debts were unpaid through the Boston city directories in order to learn the names of all the local partners involved. The trend in losses was calculated from the reports of national bank examiners to the U.S. Comptroller of the Currency, 1876–95 (Boston banks only).

33. *Rhodes' Journal of Banking* 20(June 1893):585–92. See also *Bankers' Magazine* 57(September 1898):384, 413–22.

found when he determined to write into a credit book everything that he “positively knew, or could learn from unquestionable sources” about his borrowers. To his “astonishment” he discovered “how little I really knew.” He concluded from his experiment that he and other bankers had been “granting credits on ‘general reputation’ unworthily.”³⁴

For years bankers had supplemented their personal knowledge by subscribing to the reports issued by commercial credit agencies such as R. G. Dun and Company. These reports were rarely based on financial statements filed by the firm in question. More frequently they consisted of estimates of the worth of the firm and of the character of its proprietors based on the surmises of local lawyers and businessmen—precisely the kinds of information that bankers were discovering to be inadequate. Not surprisingly, then, by the 1890s bankers were questioning the worth of such reports and arguing that more systematic methods of collecting information were needed. To a large extent, they argued, bankers would have to take charge of this responsibility themselves by organizing credit departments within their organizations and requiring financial statements from all of their customers. These more rigorous procedures would pay off, it was argued, because many applicants for loans were in fact unworthy of credit. In order to demonstrate “the value of a careful investigation of credits,” one writer asked a New York bank with a credit department to prepare a summary of its investigation of 1,598 would-be borrowers. “Of these, 798, or practically 50 percent., were unsatisfactory and credit was refused.” The implication of the lesson was that without its credit investigation department, the bank would not have been as able to discriminate among the various applicants for loans and would have faced heavy losses as a result.³⁵

Writers not only urged banks to require financial statements from their customers, but insisted that these statements be interpreted in a very specific way. A customer’s resources should be divided into fixed assets on the one hand, and quick or convertible assets on the other. Only the latter, they argued, were the proper foundation for loans. Moreover, loans should not be granted if a borrower’s liabilities exceeded 50 percent of his quick assets, “the so-called 50 per cent. rule.” Even on this basis, loans should be granted for only short periods of time, at most six months and preferably less (Cannon 1907, 44, 47; Forgan 1920, 8–10).

How this particular prescription emerged is a matter of some importance, because by definition it ruled out important categories of loans to manufacturers. The emphasis on quick assets meant that much of the capital invested by manufacturers in their businesses, even if unencumbered, would not be con-

34. *Bankers' Magazine* 57(August 1898):286–87. See also *Rhodes' Journal of Banking* 20(February 1893):137–39 and (April 1893):377.

35. *Bankers' Magazine* 47(January 1893):535–36. See also Cannon (1891, 6–8).

sidered a proper basis for loans.³⁶ At the same time, the insistence on loans of short duration meant that manufacturers could not borrow from banks to finance improvements in plant and equipment that might take a longer period to generate returns.

Many writers justified their emphasis on short-term commercial loans by emphasizing the greater need for liquidity that resulted from the growth of deposit banking. According to a pamphlet issued by the American Institute of Banking, "experience shows that a bank all of whose assets can be converted into cash within a few months without loss is altogether unlikely to be disturbed by lack of confidence, and should it be subjected to unfounded rumors no difficulty is experienced in securing the necessary funds from other banks" (*Loans and Investments* 1916, 12).

But the argument that short-term loans necessarily led to greater liquidity made little sense, as even the writers of this pamphlet seemed to realize. Under conditions of crisis, portfolios consisting entirely of short-term commercial loans could be as difficult to liquidate as those with a significant proportion of long-term loans, because bankers typically had to renew their customers' notes in order to avoid alienating them or precipitating failures that would render the loans themselves uncollectible (*ibid.*, 14–15; Mintz 1945, 216–19). Liquidity needs, bankers recognized, had to be met in other ways, and it was common to recommend that a bank invest 20 percent of its funds in high-grade bonds and securities, "such as are convertible at a moment's notice," and another 20 percent in commercial paper purchased in the open market, which would be free of any pressure for renewal at maturity. With the liquidity of the institution thus safely assured, the bank could loan the remaining 60 percent of its funds locally for the benefit of its customers. But despite the recognition that these assets would generally be unavailable in times of emergency, writers still insisted that "the conclusion should not be drawn, however, that the loans made to such regular customers need not possess the quality of liquidness." Loans to regular customers should also be granted for brief periods only and should be based solely on the firms' short-term assets (*Loans and Investments*, 1916, 14–15; Coman 1907, 66–77).

Careful study of the pamphlets that promoted this advice suggests that at the heart of the matter was concern about information and monitoring problems—not liquidity per se. Short-term loans based on quick assets were desired because they helped to discipline the borrower. Bankers expected "that borrowers will use the proceeds of loans which they are to repay in a few months more wisely than might be the case if the payment were indefinitely deferred." Moreover, because the information contained in a borrower's financial statement reflected current conditions only and was liable to "change rad-

36. In the first two decades of the twentieth century, a few writers did express doubts about the formula precisely on these grounds. See, for example, Hogg (1915, 20) and H. G. Moulton (1918).

ically for the worse” with the passage of time, such statements were clearly “a basis of short time credit only” (*Loans and Investments* 1916, 14–15).

5.6 The Problem of Communicating Information about Soundness

At the same time as the decline of insider lending made it more difficult for banks to assess the creditworthiness of their borrowers, it also made it more difficult for investors and (now more importantly) depositors to evaluate the soundness of each bank. Now that only a small proportion of loans went to insiders, the identity of a bank’s directors conveyed little information to investors about the content of the institution’s loan portfolio. Worse still, the identity of the directors also conveyed less and less information about the quality of the bank’s management team, since directors tended to lose interest in overseeing a bank once their need for its funds diminished. Indeed, by the last three decades of the nineteenth century, many directors had begun to shirk their responsibilities, failing to attend the regular meetings of the board and delegating increasing amounts of their authority to the bank’s executive officers. Attendance reached an all-time low, for example, at the weekly meetings held to scrutinize recent discounts. Only two of the seven directors of the Boylston National Bank of Boston were present at least for 70 percent of the board’s meetings in 1880. Only three of the Massachusetts National Bank’s nine directors had a similar attendance record, as did only one of the nine directors of the People’s National Bank of Roxbury. The pattern, moreover, was the same at many other institutions.³⁷

The problem with this negligence was that it opened the way for opportunistic behavior by the bank’s management team (the president and/or cashier and the bank’s few active directors). These men could use their positions of authority to loan themselves large sums of money without the consent of the rest of the board and, of course, without the knowledge of the general public. Whether these loans were more likely to lead to losses than the insider loans so common in early-nineteenth-century banks is impossible to determine. What is certain is that contemporaries regarded such behavior as increasingly dangerous. By the 1880s it had become a truism that large loans to insiders were the major cause of bank failures. As Comptroller of the Currency William Barret Ridgely insisted in a sentiment that was voiced repeatedly throughout the period, “The practically universal rule is that all failures are due to excess loans to one interest or group of interests, generally owned or controlled by the officers of the bank itself” (quoted in Moxey 1905, 33).

But how were investors and depositors to know which banks were engaged

37. Directors’ and Stockholders’ Minute Book, 1864–87, Boylston National Bank of Boston; Directors’ and Stockholders’ Minute Book, 1865–83, Massachusetts National Bank of Boston; Directors’ and Stockholders’ Minute Book, 1864–83, People’s National Bank of Roxbury, MA; all in Bank of Boston Archives. The generalization is based on my reading of directors’ minute books for a large number of banks in the region.

in such dangerous practices? And how were banks that eschewed such practices to communicate this fact to the public at large? The question was not merely an academic one, for at stake was the banks' ability to raise funds. Moreover, unless the public was able to distinguish among the various banks, the failure of any one of them threatened to undermine public confidence in the banking system as a whole and with it the public's willingness to hold deposits. As Charles W. Calomiris and Gary Gorton have pointed out, information asymmetries made it difficult for depositors to monitor the performance of individual banks. Whenever depositors believed that some banks were in danger of failing but were unable to identify the particular institutions at risk, they might withdraw their savings indiscriminately, precipitating a system-wide panic.³⁸

Contemporary bankers understood this danger all too well. As one writer in *Bankers' Magazine* explained, "We are in a most important sense directly responsible for each other, and cannot avoid being disturbed by the ignorance, selfishness or immoral conduct of our most remote members." Or, as another writer succinctly put it, "Every bank that fails through mismanagement weakens the surrounding ones." The danger was dramatically illustrated in early 1884 when several failures, "all attributable to the madness of speculation by bank officers," caused depositors to panic. In Vermont, for example, the failure of the First National Bank of St. Albans (allegedly caused by an "unfortunate speculation in stocks by its president and cashier") led to a run on the National Union Bank of Swanton, even though professionals regarded the solvency of the latter bank as undoubted: "To meet only \$52,000 due depositors, it held \$117,000 of good, short time paper." That same year the *Bankers' Magazine* despaired that "many business men are suspicious of other banks, and, by withdrawing their deposits, are doing their utmost to bring on the very condition of things they deplore."³⁹

38. Calomiris and Gorton (1991). One writer claimed that it was "much more difficult to secure trustworthy information in regard to the standing of a bank than it [was] in regard to the standing of a commercial firm." Although each national bank published a financial statement biannually, these documents contained no information at all about the contents of the banks' loan portfolios. Moreover, the balance sheets of many banks looked roughly similar. For example, in 1885 the average ratio of capital plus surplus to total liabilities for Boston banks was about 35 percent, with nearly half of them falling within the range of 30 to 40 percent. At the same time, the fact that five of the nine banks with ratios below 25 percent were among the most successful in the city in attracting deposits suggests that savers may not have paid much attention to such information anyway (*Rhodes Journal of Banking* 15[March 1888]:232; U.S. Congress, House, 1885, 62-83).

39. *Bankers' Magazine* 38(May 1884):886, 38(June 1884):901-2, 39(July 1884):45, and 42(August 1887):83. William Goddard himself painfully learned this lesson in the late 1870s, when a savings-bank panic spread to the rock-solid Providence Institution for Savings. Over the course of the run the savings bank lost nearly \$500,000, in deposits. On the worst day of the panic about \$195,000 was withdrawn. That night the Providence National Bank stayed open until 10:30 in order to pay checks drawn on it by the savings institution. Cash ran low, and Goddard had to arrange for \$425,000 to be shipped express from New York. See Goddard Brothers Diaries, vol. 1, 8, 12, 26, 27, and 29 April 1878; Directors' Meeting, 27 April 1878, Directors' and Stockholders' Minute Book, 1865-80, Providence National Bank, Fleet National Bank Archives; *Providence Journal* (29 April 1878):2.

Just as their predecessors in the early nineteenth century had developed the Suffolk system to guard against the monetary excesses of the country banks, bankers responded in similar fashion to this new danger by attempting to regulate the behavior of their colleagues. The Boston Clearing House, the region's first such institution, was originally founded in 1855 to facilitate the settling of accounts among the city's many banks. But its potential usefulness as an instrument of regulation soon became apparent. In addition to clearing checks, the organization could be used to instill public confidence as well as to prevent runs on its membership by serving as a lender of last resort for temporarily insolvent banks, thereby safeguarding the public's deposits. Since this service was only available to members, moreover, admission to the clearing house became a prize that could be offered as a reward for good management practices or denied as a punishment for financial transgressions (Gorton 1985; Gorton and Mullineaux 1987). The Pacific National Bank of Boston, for example, was excluded from the clearing house because the city's leading bankers disapproved of its management and "decidedly and successfully opposed its admission."⁴⁰

Unlike the Suffolk system, however, the clearing house was of only limited effectiveness as a disciplinary tool. In the first place, banks like Pacific National typically arranged to clear their checks through allied member institutions, a practice that potentially jeopardized the latter's safety. When the Pacific National Bank failed in 1881, for example, its correspondent, Central National, faced heavy losses and had to be rescued by the associated banks (Patten 1896, 357). Second, the organization could not afford to be overly selective, because denying membership to a large number of banks would have undermined clearing-house effectiveness both in clearing checks and maintaining public confidence in the banking system (Bolles 1890). Third, the kinds of general balance-sheet information that the clearing houses routinely collected did not provide any information about loan portfolios. Although clearing-house officials had the authority to conduct a full examination of each bank's affairs, such powers were usually reserved for emergencies.

Moreover, even when information about unsound practices surfaced, clearing-house officials might deliberately ignore the danger signals. The case of the Maverick National Bank in Boston (which collapsed as a result of large loans to support the speculative investments of its president, Asa P. Potter, and several of its directors) shows that they could be so worried about financial crises that they would rather overlook the transgressions of member banks than rock the boat and risk precipitating any failures. Certainly, when Potter's partner, Irving A. Evans, went bankrupt and committed suicide a month before the Maverick's collapse, rumors quickly spread that the bank itself was in

40. Patten (1896, 357). At the time of the Pacific National failure, Patten was cashier at Boston's State National Bank, a member of the clearing house. On the admission policies of clearing houses, see also Carroll (1895, 132–33). According to a *Manual* put out by the Maverick National Bank (1887, 93), seven other New England cities had clearing houses by the late 1880s.

trouble. The clearing house, however, took no action until the Winthrop Bank, of which Evans's brother was president, refused to honor one of the Maverick's certified checks. (Potter later claimed that the brother blamed him for the suicide and used this means to exact revenge.) Other clearing-house members were appalled by the Winthrop's action, but the cat was now out of the bag, and the association had no choice but to initiate an investigation, which culminated with the pronouncement that the Maverick National Bank was indeed insolvent.⁴¹

Government regulators also proved to be of little use to clearing houses in controlling the behavior of individual bankers. Although the National Banking Acts prohibited loans to any one individual, firm, or corporation in excess of 10 percent of a bank's capital, this provision was relatively easy to evade and difficult to enforce. The only sanction the comptroller of the currency had at his disposal was to institute proceedings to revoke the offending bank's charter, a remedy far too drastic to be invoked with any frequency. As a result, the statutory limit notwithstanding, over 40 percent of the national banks reporting to the comptroller in June 1900 had made at least one loan that exceeded 10 percent of their capital.⁴² The most the comptroller could do was to make regular examinations and communicate the results to the banks' officers and directors. But what the banks did with this information depended mainly on the character of their boards of directors and the extent to which board members exercised any oversight over managers' decisions.

5.7 Specialization in Short-Term Commercial Lending

Thus one solution to the problem of dangerous banking practices was to encourage directors to become more vigilant. Trade journals from the 1880s were filled with articles urging directors to pay closer attention to their duties—to attend board meetings more frequently, to examine the books of their banks with greater regularity, and to “watch the conduct of their president and manager.”⁴³ These exhortations, plus a growing tendency for creditors to sue the directors of failed banks for negligence, seem to have produced a rise in attendance at directors' meetings. To return to the original examples, by 1895 all six directors of the Boylston National Bank of Boston were present at 80 percent or more of the meetings, and four were there at least 90 percent of the time. Attendance was still low at the Massachusetts National Bank, but at People's in Roxbury four of the directors attended at least 70 percent of the meetings, as opposed to only one in 1880. To encourage this trend, many

41. *Boston Evening Transcript* (2 November 1891):1–2, and (3 November 1891):8.

42. *Bankers' Magazine* 37(December 1882):445; Barrett (1907, 289).

43. *Bankers' Magazine* 36(December 1881):414–16, 36(April 1882):733–35, 36(June 1882):892–94, 39(October 1884):241–44, 42(August 1887):81–84; 42(December 1887):409–13; *Rhodes' Journal of Banking* 12(April 1885):259–60.

banks began to pay their directors a nominal sum, usually \$2 (sometimes more), for each meeting attended.⁴⁴

In order for this increased attentiveness to have any consequence, however, directors had to be educated about sound banking practices. In addition, there had to be a set of agreed-upon standards—particularly a set of objective criteria for loans—that directors could use to monitor managers' performance. In the case of collateral loans, objective criteria were relatively easy to establish, because the securities markets provided an evaluative mechanism. Hence, the securities of closely held corporations had at all cost to be avoided. Because they were not traded on the exchanges, their worth was difficult to establish, and this uncertainty made it possible for bank officers to overvalue the assets of enterprises with which they themselves were associated. A rash of bank failures in the early 1880s dramatically illustrated the dangers involved:

The banks which lately failed loaned on very poor security, and other banks have lost by doing the same thing—by accepting the bonds and stocks of incomplete enterprises, and which perhaps were earning no dividends. But the saddest feature of the recent disclosures is that bank officers were led to do these things because of their pecuniary interest in the enterprises that received the money. They well knew in most of these cases, probably, that the securities were of a hazardous nature. And they never would have accepted such securities, except for their own interest in these outside undertakings.⁴⁵

Such willful misjudgment was more difficult to guard against in the case of unsecured loans, but bankers' faith in the objective worth of real commercial paper helped them to devise another set of lending criteria that they felt would obviate the problem. Although they recognized that real commercial paper was increasingly scarce, they believed that banks could create an equally effective substitute by restricting their business to short-term loans based on quick assets only. We have already seen how this type of loan was embraced as a solution to the problem of evaluating the creditworthiness of outside borrowers. That it might also be embraced as a solution to the objectivity problem can be seen from a pamphlet by E. T. Coman, entitled "Requisites of a Good Loan." Like other writers at the time, Coman recommended that banks should invest 20 percent of their funds in high-grade bonds and securities and another 20 percent in commercial paper purchased in the open market. Such investments would seem to insure that the banks had enough liquid assets to meet most exigencies, yet Coman nonetheless insisted that their remaining loans

44. Directors' and Stockholders' Minute Book, 1887–1909, Boylston National Bank; Directors' and Stockholders' Minute Book, 1883–1900, Massachusetts National Bank; Directors' and Stockholders' Minute Book, 1883–98, People's National Bank. The generalization about remuneration is based on my reading of minute books for a large number of banks in the region.

45. *Bankers' Magazine* 38(June 1884):908. See also Bradley (1907, 62–66).

should be based only on borrowers' "current business," by which he meant advances on "the market value of commodities in the process of conversion into money." If not specified for sixty or ninety days, such loans "should mature upon the definite happening of an event which is of reasonable certainty of occurrence . . . , the maturity of a crop, the completion of a contract." Loans of indeterminate length, he suggested, were a recipe for disaster. Especially to be avoided were "loans which have the character of a permanent investment in the business of the borrower" (Coman 1907, 69–71).

It is clear from the remainder of the pamphlet that the author, who goes on to fret about the problem of insider lending, made these recommendations not primarily for the purpose of insuring liquidity, but because he believed that they were the best means of insuring that loans would be granted according to objective criteria, such that a banker could exercise "no arbitrary discretion when he extends or refuses accommodation to the borrower" (*ibid.*, 66). By adopting a standard for loans that resembled as closely as possible the ideal of real commercial paper, banks could avoid the entanglements between borrower and lender that distorted the latter's judgment and potentially undermined the security of the banking system.

As Coman's pamphlet suggested, long-term loans were considered *prima facie* evidence of the existence of such potentially disastrous entanglements between borrowers and lenders. Hence as bankers redefined the boundaries of their business during the latter years of the century, they proscribed this type of lending entirely. James B. Forgan underscored this point in 1898: "One of the most fundamental principles of good banking is that the bank should not furnish the capital for its customers to do business upon. The customer should possess his own capital, and require assistance from the bank only at certain seasons and for specific purposes" (*Bankers' Magazine* 57[September 1898]:384). Comptroller of the Currency Hugh McCulloch put the matter even more succinctly in a statement that was repeatedly quoted in the practical banking literature: "Banks are not loan offices. It is no part of their business to furnish their customers with capital" (quoted in Barrett 1907, 305).

5.8 Theory and Practice

There is no question that, by the end of the century, these principles had come to dominate all discussions in the practical banking literature. But whether bank managers in fact adhered to them in their daily business activities is much more difficult to determine. There simply are no internal bank records from this period that report the actual criteria employed in evaluating individual applications for loans.

That directors did make use of the new rules to monitor the performance of their managers is, however, suggested by the records of the National Shawmut Bank, the largest bank in Boston, the result of a merger of ten of the city's banks. The Shawmut's lending business was normally handled on a day-to-

day basis by an executive committee, whose decisions the board of directors assembled weekly to ratify. Each year, however, the board appointed its own agents to scrutinize the state of the bank's loan and investment portfolios. In the reports of these examiners, one finds clear evidence that the principles set down in the practical banking literature were actually being applied. In 1903, for example, the examiners chastised the bank's managers for accepting as collateral securities that were not actively traded on the market: "We disapprove in loaning on the stock of a Corporation where we are loaning direct to the Corporation, especially to Officers, except on listed and active and saleable stocks." The examiners also devoted a significant portion of their report to criticizing "the large and apparently permanent Loans to Corporations and Individuals which appear like furnishing a steady Capital for business enterprises." To reduce the number of such loans the examiners recommended "converting a certain class of Time Loans that usually have to be renewed at the option of the borrower, and a part of what we call Steady Demand Loans, into Loans that when they come due cannot possibly have any claims on the Bank." To this end they advised the executive committee to make purchases "in the open market of Commercial paper and Collateral Loans."⁴⁶

Yet even if we grant, as the Shawmut evidence seems to suggest, that these new principles were indeed finding their way into everyday banking practice, we still need to assess the extent to which they actually shaped loan portfolios. Writing in the second decade of the twentieth century, the economist H. G. Moulton attacked the (by then) conventional wisdom of the practical banking literature by arguing that banks should play an active role in supporting manufacturing investment: In order to demonstrate that such a role would not undermine the safety of the banking system, he undertook to show that a considerable portion of existing loans already financed such investment—that "commercial banks are prone to ignore, in practice, the distinction between commercial and investment business" (Moulton 1918, 639). Moulton conceded that banks decided whether to make unsecured loans by calculating the ratio of a firm's debt obligations to its quick assets. He also admitted that such loans were rarely granted for periods longer than six months. But he argued that many short-term loans were regularly renewed, and that once a loan was granted, banks had no control over the use to which the borrower put the funds. As a practical matter, the proceeds of a loan could be used just as easily to pay for investments in plant and equipment as to finance goods in the stream of production. Based on his own (undescribed) "investigations extending over a period of several years," Moulton claimed that as much as 20 percent of the banking sector's unsecured commercial loans were used for investment purposes (*ibid.*, 648).

Moulton's assertions are difficult to verify, because most of the bank records

46. Report of the Committee to Examine the Loans and Securities of the Bank, 23 April 1903, Directors' Minute Book, 1898–1903, National Shawmut Bank.

that are extant contain only scattered data on loans, with no information at all about their terms or about the kinds of security that backed them up. There is, however, a brief run of complete loan records for the Suffolk National Bank in Boston.⁴⁷ Analysis of these records shows that 54 percent of the bank's portfolio consisted of short-term loans based on personal security, and that it is unlikely that many of these loans could have supported investments in plant and equipment. Fully two-thirds (by value) were notes purchased on the commercial-paper market, that is, bought from individuals or firms that served neither as principals nor endorsers for the notes. Although many of the signatories on these loans were manufacturers, they were not themselves customers of the bank and hence could not expect their notes to be renewed at maturity. In fact, only 19 percent of the bank's loan portfolio consisted of notes backed by personal security that were discounted for the benefit of customers who were signatories, and less than half of this amount involved manufacturing enterprises.

It is, of course, possible that the Suffolk National Bank was unusually specialized in the commercial lending business, and that the loan portfolios of other institutions would look quite different. But the (much less complete) evidence on loans that is available for other banks in Massachusetts and Rhode Island suggests otherwise. The problem with these records is that it is impossible to distinguish loans to regular customers from short-term commercial paper bought in the open market. But a proxy for this distinction can be constructed by assuming that all loans to local firms (that is, loans whose principals or endorsers were listed in local city directories) were loans to customers, and that all other loans consisted of purchased commercial paper. Such a calculation reveals that loans to local customers who were manufacturers ranged from 0 to at most 20 percent of portfolios, with most banks clustering between 14 and 20 percent. There is no reason to assume, moreover, that all of the loans in this category supported investments in fixed capital. A large proportion undoubtedly financed bills receivable.⁴⁸

47. Discount Register, 1899–1902, vol. 75, Discounted Notes Balance, 1900–1902, vol. 101, Discount Ledger, 1901–2, vol. 102, Suffolk Bank, Boston, MA, MSS 781, Baker Library, Harvard University Graduate School of Business Administration. I analyzed all loans granted in the months of January, April, July, and October 1901.

48. At least some information on loans is available for the following banks: Shoe and Leather National Bank of Boston, 1887; Monument National Bank of Charlestown, Boston, 1905; National Bank of Rhode Island, Newport, 1888; First National Bank of Warren, RI, 1886; National Hope Bank, Warren, RI, 1889; National Warren Bank, RI, 1888 and 1898; National Niantic Bank, Westerly, RI, 1893; and First National Bank of Bristol, RI, 1898. See Directors' and Stockholders' Minute Book, 1885–93, Shoe and Leather National Bank, Bank of Boston Archives; loose sheets in Directors' Minute Book, 1892–1905, Monument National Bank, MSS 781, Baker Library, Harvard University Graduate School of Business Administration. The remainder of the records are located at the Fleet National Bank Archives. See Directors' Minute Book, 1862–1902, National Bank of Rhode Island; Directors' and Stockholders' Minute Book, 1864–89, First National Bank of Warren; Directors' and Stockholders' Minute Book, 1873–92, National Hope Bank; Directors' and Stockholders' Minute Book, 1887–99, National Warren Bank; Directors' and Stockholders' Minute Book, 1892–1905, National Niantic Bank; Directors' and Stockholders' Minute Book, 1865–1901, First National Bank of Bristol, RI.

It is, of course, true, as Moulton also pointed out, that collateral loans to brokers and other intermediaries who dealt in the securities markets could be construed as supporting capital formation, because they indirectly underwrote the investment activities of the firms that issued the securities in the first place (Moulton 1918, 651–54). Eighty-four percent (by value) of the Suffolk's collateral loans (38 percent of its total portfolio) were of this type. But what is interesting about these loans was precisely how indirect the relationship between banks and capital formation was. Whereas early-nineteenth-century banks had granted large loans to support the investment activities of their officers and directors, late-nineteenth-century bankers responded to the information problems created by their arm's length dealings by eschewing anything that smacked of a direct investment in their customers' enterprises. Instead they insisted that loans backed by personal security be based on quick assets only and that loans backed by collateral security be based on readily marketable securities. In the case of both types of loans, moreover, bankers seem by the turn of the century to have preferred increasingly to escape the mutual obligations of the customer relationship and do much of their business through brokers. Although banks thus relinquished their ability to monitor or influence borrowers' behavior, such specialization enabled them to reduce risk by shifting it to other kinds of intermediaries. As one banker fantasized, "Some day [I] will have a bank (about the time of the millennium) which will . . . make no loans direct, but will only buy notes through the brokers; where collateral is used, that will be held by guarantee companies who shall endorse. It will thus be able to stop lending on any name without reflecting on the party's credit" (*Rhodes' Journal of Banking* 20[February 1893]:138–39).

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Comment Charles W. Calomiris

Naomi Lamoreaux's portrayal of New England banking emphasizes several intriguing features of the changing structure and role of New England's banks. I would call attention to three major themes in the paper. (1) In the early history of the system "insiders" played a fundamental role in ownership and management, obtained preferential treatment in access to funds, and accounted for a large share of bank loans. (2) "Outsiders" (including unsophisticated investors) during the early history of New England banking were not just debt holders (as many historical and theoretical studies of other times and places lead one to expect), but in many cases accounted for the majority of stock ownership in banks. (3) By the late nineteenth century the reliance on insider ownership and control had waned, insiders were far less important as an outlet for bank loans, and financing came to rely less on capital and more on debt.

A central point of Lamoreaux's paper is that the early financing and loan-allocation structures of New England banks should not be studied in isolation; they are best understood as a combined response to the need to finance productive local investments in an environment of "capital scarcity," given that other means for external finance were lacking. Furthermore, she argues that the change in bank financing structure and loan allocation over time support that view. The decline in the reliance on insider ownership, management, and borrowing coincides with an increased reliance on debt, and a change in the way banks gathered information about their new primarily "arm's length" borrowers.

What I especially like about this paper is that the evidence it contains helps to tie together three important literatures: the theoretical literature on the optimal form of bank finance in environments of asymmetric information, the empirical literature on the evolution of banking in the United States, and the historical literature on changing regional concentration of industrialization over the nineteenth century.

I will discuss how I think these three literatures are linked, using evidence presented in the paper and some additional evidence. In doing so, I will (1) provide generally supportive descriptive evidence, (2) recast and add to the argument linking the peculiarity of the two sides of early New England banks'

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balance sheets, and (3) show that—consistent with the theoretical model I will discuss—New England's *cities* during the first half of the nineteenth century were the main outlier with respect to the loan allocations and financing structure of U.S. banking.

Industry and Banks in New England Relative to the United States

Let me begin with a discussion of the literature on changes in industrial location during the nineteenth century. New England banks (especially those in Boston and Providence) initially were an important vehicle for financing the golden age of New England industrial growth. As investment opportunities shifted to other regions, New England's banks changed their role from financing investment to financing commercial activities and investing in securities. As is well known, small groups of New England's entrepreneurs set up a complex interlinked network of banks and industrial enterprises during the period of early industrialization. This network was mainly designed to help finance growing industry during an early stage when entrepreneurs lacked sufficient investment funds.

The reasons behind the early concentration of industry in New England has been the focus of much research—by Field, Hekman, Goldin and Sokoloff, and many others.¹ These authors point to a combination of factors—low-cost labor displaced from agriculture as the West opened, and agglomeration economies (or Marshallian factor-market externalities) that made Boston an especially good location to develop new techniques. Boston and vicinity was where cheap unskilled labor, skilled artisans who could manufacture and service innovative (and changing) machinery, and concentrations of capital could all meet and collaborate easily.

Hekman's map of industrial location emphasized the importance of proximity to Boston's factor markets during the early phase of technological development and capital accumulation in cotton textiles.² He, and later Wright,³ argued that the shift of industry away from Boston and toward the South in the 1880s and 1890s reflected lower costs of unskilled labor in the South, and a mature (and therefore) "transportable" manufacturing technology that no longer required proximity to skilled machinists. Factories, entrepreneurs, and capital moved South and West in the late nineteenth century as economic opportunities, transportation cost declines, and factor-market price differentials propelled them out of the Northeast. It is therefore natural that New England's big-city bankers would change their allocation of funds more toward com-

1. Alexander Field, "Sectoral Shift in Antebellum Massachusetts: A Reconsideration," *Explorations in Economic History* 15(1978):146–71; John S. Hekman, "The Product Cycle and New England Textiles," *Quarterly Journal of Economics* 94(1980):697–717; Claudia Goldin and Kenneth Sokoloff, "Women, Children, and Industrialization in the Early Republic: Evidence from the Manufacturing Census," *Journal of Economic History* 42(1982):741–74.

2. Hekman, "Product Cycle," fig. 1.

3. Gavin Wright, "Cheap Labor and Southern Textiles before 1880," *Journal of Economic History* 39(1979):655–80.

merce and more distant investments. Additionally, as New England firms grew, their internally generated cash flow increased relative to their investment opportunities, reducing their demands for borrowing. An interesting example of this turning outward was a propensity of state-chartered banks in New England to invest in western mortgage pools in the latter quarter of the century. Gary Gorton and I discovered this while sifting through state bank superintendent reports from the 1890s. When the western land bust came, it seems New England state-chartered banks were among the hardest hit of eastern state-chartered banks.

Thus far I have argued that the transition from financing local capital accumulation to other activities, which Lamoreaux argues occurred, makes sense within the overall context of the history of changes in industrial expansion in various regions of the United States. But this does not explain why industrial entrepreneurs in New England during the early nineteenth century should have *owned and controlled* banks, nor why banks in New England cities had such higher ratios of capital to assets relative to other banks.

Before discussing explanations for these unusual aspects of early New England banking, it is worth noting that New England's *cities* were the exception to the rule in their propensities to make so many loans to insiders and to rely on capital as their primary means of finance.

First, on the question of loans to insiders, scattered data that are available suggest that states outside New England had much lower proportions of loans to insiders. For example, according to the reports of the superintendent of banking in New York State for 1845, only 6 percent of assets took the form of loans to insiders. By 1854 in New York City loans to directors amounted to roughly 4.8 percent of total assets, while for the state as a whole insider loans were 4.6 percent of total assets. Many states (Ohio, for example) specifically limited loans to insiders, and in many cases 10 percent was considered a large number.

On the question of reliance on capital finance, again New England—and its cities in particular—seems to be a national outlier. In a recent paper, Kahn and I pointed out that New England's banks had much lower specie ratios and much higher capital ratios than other northeastern states' banks in 1850.⁴ We also found that these patterns varied greatly by bank location within each state. Holding urbanization constant, New England and other states have similar reliance on capital, except in the large cities (Boston and Providence) where the reliance on capital far exceeds that of Baltimore, New York City, or Philadelphia.

Table 5C.1 draws on data from state superintendents' reports to compare and contrast the financing structure of banks in New York, Massachusetts, and Pennsylvania for three dates in the nineteenth century. The essential messages

4. Charles W. Calomiris and Charles M. Kahn, "The Efficiency of Cooperative Interbank Relations: The Suffolk System," manuscript, Northwestern University, 1990.

Table 5C.1 Bank Growth and Financing

	1836–37				1854–55			1900 ^a		
	NY 1/37	PA ^b 1/37	MA 10/36	BUS 1/37	NY 9/54	PA ^b 11/54	MA 8/55	NY	PA	MA
D/A	0.14	0.20	0.22	0.02	0.34	0.24	0.17	0.56	0.62	0.54
N/A	0.20	0.22	0.16	0.10	0.13	0.34	0.22	0.02	0.04	0.04
C/A	0.30	0.38	0.51	0.29	0.35	0.26	0.49	0.08	0.12	0.15
C&S/A	0.35	0.42	0.56	0.34	0.38	—	0.54	0.17	0.23	0.24
IB/A	0.16	0.12	0.08	0.28	0.09	0.04	0.06	0.23	0.11	0.15
a					2.2	1.8	1.7	11.0	9.4	5.2
n					1.4	2.8	2.3	1.3	1.0	1.0
d					5.4	0.6	1.3	17.9	24.5	16.5
c					2.6	1.2	1.6	2.6	4.3	1.7
c&s					2.4	—	1.7	4.9	7.2 ^c	2.3
A	108	62	68	119	237	112	112	2,609	1,053	585
n/a					0.6	1.6	1.4	0.1	0.1	0.2
d/a					2.5	0.3	0.8	1.6	2.6	3.2
c/a					1.2	0.7	0.9	0.2	0.5	0.3
c&s/a					1.1	—	1.0	0.5	0.8	0.4

Sources: U.S. Congress, House, *Condition of Banks throughout the Union*, 25th Cong., 1st Sess., Ex. Doc. 111 (1837); U.S. Congress, House, *Condition of Banks throughout the Union*, 34th Cong., 1st Sess., Ex. Doc. 102 (1855); Board of Governors of the Federal Reserve System, *All Bank Statistics* (Washington, DC, 1959).

Note: Lowercase letters denote ratio of current level to previous period's levels. D = individuals' deposits; N = bank notes outstanding; C = capital; S = surplus; IB = deposits of other banks; A = total assets.

^aData include national and state banks.

^bData exclude Bank of the United States (BUS).

^cAssuming 4 percent surplus-to-assets in 1854 (the ratio in 1837).

of this table are (1) in 1836 and 1854 Massachusetts banks had a much higher reliance on capital to finance assets; (2) from 1836 to 1854 the reliance on capital was little changed in New York or Massachusetts, with balanced growth in all financing components in Massachusetts (in contrast to New York's increased reliance on deposits, and Pennsylvania's increased reliance on notes); (3) by 1900, all three states had converged to a fairly homogeneous financial structure, with Massachusetts and Pennsylvania showing an especially strong "catching up" in deposit banking.

But the heavy reliance on capital in the early phase of banking growth in Massachusetts shown in table 5C.1 is entirely attributable to Boston. If Boston banks are removed from the sample, the capital ratio of Massachusetts banks falls from 51 percent to 33 percent. This is comparable to a 35 percent capital ratio of banks in New York state located outside New York City.

These facts suggest that a theoretical explanation of the reliance of banks on capital should explain the peculiarity of New England's cities in the early period. Another fact that the model should explain is that the greater reliance on bank capital did not require higher returns to stock ownership. Indeed, dividends for New England banks (in and outside Boston) are lower than those of Philadelphia or New York City banks.⁵ In other words, banks in New England were able to float more stock at lower cost than banks elsewhere, while at the same time lending more of their money to insiders.

Modeling Bank Ownership Structure and Financing Structure

I return now to the two central puzzles of New England banking to be explained—namely, the high reliance on capital by banks in Providence and Boston, and the relative importance of loans to insiders (those who own a substantial share of the bank and control its operations).

In explaining the preferential treatment afforded insiders, Lamoreaux dismisses the argument that outsiders were too costly to screen and monitor, noting first that they were typically part of the same local community, and second, that many outsiders' loan applications were rejected not on the grounds of poor credit risk, but because the insiders preferred to lend to themselves and "lay over" the requests of outsiders. Indeed, Lamoreaux argues that "one of the primary forces driving the expansion of the banking system in the early nineteenth century was the desire to gain privileged access to credit." In other words, part of the value of starting a bank was owning a loan supply option for your own business.

This is certainly a reasonable idea, given the potential information problems involved in financing growing enterprises through other means than the bank (foreign or out-of-state borrowing, direct corporate stock flotations in foreign or out-of-state markets, etc.).

Assuming there was a credit-supply benefit to insiders from organizing

5. *Ibid.*

banks to make loans to them, how does one explain (1) that insiders will hold a substantial fraction of the bank (an even larger fraction relative to their own wealth) and (2) that outsiders provide a readier market for bank stock than in other states, rather than debt, and at lower yields than in other states? This second fact seems all the more puzzling given the potential for cheating outsiders through fraudulent or excessively risky insider lending. After all, many arguments for the prevalence of bank reliance on debt financing under asymmetric information view debt as limiting the banker's behavior to protect the interests of the outsider.⁶

I think many of the pieces necessary to make a reasonable argument are provided in Lamoreaux's paper. The argument for why capital was feasible in New England seems to have three parts: (1) small stockholders were given disproportionate power in voting as a check on insider abuse (note that the fact that this power was not used very often could simply be an indication that it was a very effective check); (2) much of bank stock was owned by people in the know who were not loan recipients, thus providing a mechanism (through stock demand) to keep insiders behaving properly; and (3) insiders or their associated enterprises (including savings banks) held substantial amounts of bank stock, which would have been reduced by fraudulent or excessively risky lending to insiders.

Thus part of the explanation for why widows and orphans were willing to hold bank stock is that enough insiders and sophisticated investors were also doing so. Kahn and I make a similar argument for the prevalence of bank stock in New England at low yields.⁷ We argue that institutional peculiarities in New England (notably the Suffolk system) facilitated incentive-compatible monitoring by informed parties. A central point here is the old saw that "where there's no conflict, there's no interest." Environments where asymmetric information is important imply benefits from some subset of the debt or equity holders monitoring the managers. The trick is to provide an incentive for the right people to do the right amount of costly monitoring.⁸

As nineteenth-century contemporaries and banking historians since Redlich have stressed, New England bankers seem to have solved the problem of creating incentive-compatible monitoring extraordinarily well. Lamoreaux's detailed evidence allows us to speculate more specifically on how incentives for monitoring were created. Incentive-compatible monitoring seems to have occurred at two levels: within the banking firm and among financial institutions. In both cases, there were clear gains to be had by relatively informed parties in limiting excessive risk-taking by insiders at the expense of outsiders.

6. Charles W. Calomiris and Charles M. Kahn, "The Role of Demandable Debt in Structuring Optimal Banking Arrangements," *American Economic Review* 81(1991):497-513; Charles W. Calomiris, Charles M. Kahn, and Stefan Krasa, "Optimal Contingent Bank Liquidation under Moral Hazard," Federal Reserve Bank of Chicago Working Paper WP-13 (April 1991).

7. Calomiris and Kahn, "Efficiency of Cooperative Interbank Relations."

8. Described in Calomiris and Kahn, "Role of Demandable Debt"; Calomiris, Kahn, and Krasa, "Optimal Contingent Bank Liquidation."

First, at the level of the banking firm, insiders had incentives to monitor each other. Importantly, not all insiders desired funds at any one point in time. Insiders who wished access to funds tomorrow would want to preserve the solvency and reputation of the bank today. So long as the value to insiders of continued access to funds is sufficiently great, insiders will have incentives to monitor one another and protect the long-run interests of the bank. They would not be amenable to side payments from today's insider borrowers at the expense of the bank's overall health. According to this argument, so long as there are *several* insiders running the bank, they will restrain any one insider's attempt to use the bank as a vehicle to finance an unworthy project. Moreover, as Lamoreaux correctly argues, short-term loans can provide an effective means to limit risk taking by borrowers too, allowing early intervention to correct borrowers' abuses.

This argument helps to explain the feasibility of New England's early reliance on capital. Because the future loan-supply option was so valuable to the insiders, they expended the information costs necessary to ensure proper allocation of funds. In other states, and in New England by the late nineteenth century, the value of the credit-supply option may not have been as high, and thus capital finance and insider lending would not have been accompanied by the appropriate degree of monitoring among insiders.

It is interesting to note that this is precisely the same principle employed by the Grameen Bank of Bangladesh for ensuring that farmers repay government loans.⁹ Groups of landless farmers form loan cooperatives, with each farmer taking turns at borrowing. The group members' incentives to screen and monitor each other depend on the value of the government-subsidized loan-supply option, which is conditional on the continuing performance of the previous borrowers in the group. If any member of the group defaults, the entire group is redlined in the future. Actual default rates on loans are extremely small (1 percent).

As both Lamoreaux and Calomiris and Kahn¹⁰ emphasize, there was also a significant *interbank* monitoring network at work in New England. The interlacing of the balance sheets of the savings banks and commercial banks, and the interlacing of commercial bank liabilities through the Suffolk system, created strong incentives for banks to regulate each other (as in the Suffolk system) and monitor each other. The gains from doing so for the Suffolk system were the joint product of a higher demand for New England bank notes (wider circulation at lower rates of discount), while the benefits to the savings banks and insurance companies from monitoring followed from their direct investments in commercial banks.

Gorton, myself, Schweikart, and Kahn have argued that there are many

9. See Mahabub Hossain, *Credit for the Rural Poor: The Experience of the Grameen Bank in Bangladesh* (Dacca: Bangladesh Institute for Development Studies, 1984).

10. Calomiris and Kahn, "Role of Demandable Debt."

other examples of successful interbank monitoring to provide a joint benefit, including city clearing houses, mutual guarantee systems (in antebellum Ohio and Indiana), and branch-banking systems (particularly in the antebellum South).¹¹ What sometimes limited the potential for interbank coordination, however, was the number of banks and the geographical dispersion of banks, under unit banking. Once the number of potential monitors becomes too great, the incentives to invest in information that benefits the group becomes too low, because the individual benefit to the monitor is too watered down. Moreover, distant banks have a hard time observing each other's actions, in contrast to a small number of branching banks whose locations overlap throughout an area.

Lamoreaux is somewhat skeptical of the potential for interbank monitoring to discipline member banks, based on a few examples of clearing-house failures to detect and act upon unsound practices. I think the weight of evidence from the studies cited above, and the logic of self-regulation within clearing houses, run contrary to her conclusion that "the clearing house was of only limited effectiveness as a disciplinary tool." I conclude from Lamoreaux's examples only that the clearing house, like any good regulatory apparatus, is liable to make a few mistakes. A self-regulatory banking system that never experiences a bank failure is probably overly restrictive.

I believe that the peculiarity of New England's city banks can be attributed to incentive-compatible monitoring among borrower-insiders and among banks. The feasibility of such monitoring may have been greater in cities for two reasons. First, because cities were better areas for entrepreneurs to locate,¹² insiders' loan-supply options may have had higher value. Second, cities had a higher concentration of banks and, therefore, facilitated interbank monitoring and discipline.¹³

Reduced interbank coordination may be an important element in explaining the demise of New England banking's reliance on capital (along with the reduction at the individual bank level in the value of the loan-supply option). As the number of banks grew, mechanisms for coordinating their behavior became harder to enforce, except in cities, where limited numbers and geographical overlap encouraged the development of city clearing houses.

11. Gary Gorton, "Clearinghouses and the Origin of Central Banking in the U.S.," *Journal of Economic History* 45(1985):277-83; Gary Gorton, "Self-Regulating Bank Coalitions," manuscript, The Wharton School, University of Pennsylvania, 1989; Charles W. Calomiris, "Is Deposit Insurance Necessary? A Historical Perspective," *Journal of Economic History* 50(1990):283-95; Charles W. Calomiris and Larry Schweikart, "The Panic of 1857: Origins, Transmission, and Containment," *Journal of Economic History* (1991); Charles W. Calomiris and Charles M. Kahn, "Cooperative Arrangements for the Regulation of Banking by Banks," *Illinois Business Review* (Summer 1990):8-13.

12. As argued in Hekman, "Product Cycle."

13. Note the continuing importance of clearing-house self-regulation in cities throughout the nineteenth century, discussed in James G. Cannon, *Clearing Houses* (Washington, DC: Government Printing Office, 1910), and Gorton, "Clearinghouses" and "Self-Regulating Bank Coalitions."

Conclusion

To sum up, the reliance on capital, insider lending, and the ready market for bank stock among outsiders were jointly sustainable in New England during the first half of the nineteenth century primarily because opportunities for entrepreneurs were great, and institutional relations among financial institutions provided interbank discipline. As opportunities waned, and perhaps as institutional discipline became more costly, banks increasingly turned to other more typical means of solving agency problems, which included a greater reliance on demandable debt.

As Lamoreaux shows, this transformation coincided with a reduction in insider lending, less direct involvement of directors in bank affairs (hence, less conflict and less interest), and the development of credit evaluation techniques once outsiders became more important as a source of loan demand.¹⁴ It also coincided with a move toward greater diversification and a preference for mark-to-market portfolios, which would have been less desirable when banks were financing insiders.

This paper has added greatly to my understanding of the information problems and special early opportunities that underlay the unusual balance-sheet and financial-returns data for New England relative to other regions. I hope in the future we can convince Lamoreaux to provide a similarly detailed look at other regions. It would be particularly interesting to date the increasing involvement of New York City and Philadelphia banks in the securities markets (which I would guess becomes pronounced in the 1850s), and to see how this affected (if at all) the structure of bank balance sheets.

14. Lance E. Davis was among the first to emphasize these changes in lending practices within New England. See "Sources of Industrial Finance: The American Textile Industry, A Case Study," *Explorations in Entrepreneurial History* 9 (1957): 190–203; and "The New England Textile Mills and the Capital Markets: A Study of Industrial Borrowing, 1840–1960," *Journal of Economic History* 20 (1960): 1–30.

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