THE VALUE OF PROMINENT DIRECTORS:
CORPORATE GOVERNANCE AND BANK
ACCESS IN TRANSITIONAL JAPAN

YOSHIRO MIWA and J. MARK RAMSEYER*

ABSTRACT

Although observers urge transitional economies to rely on banks rather than stock markets, in early twentieth-century Japan, large firms did not rely on debt. Instead, they sold stock. To mitigate agency slack, they sometimes recruited prominent investors to their boards. In this context, we use data on cotton-spinning firms to explore the relationship between board composition and profitability. First, firms that hired prominent directors had higher profits in succeeding years. We hypothesize that these directors brought monitoring skills and certifying credibility: they knew what to expect, knew when and how to intervene, and had the reputations necessary to certify firm quality credibly. Second, firms did not further increase their profitability by appointing directors with access to a bank or to spinning technology. We conclude that the firms probably had access to funds and technological assistance without board connections.

SUCCESSFUL Japanese firms at the dawn of the twentieth century actively recruited prominent business executives to their boards. Why? What types of directors most effectively contributed to firm success, and what did they bring? Was access to a bank through a director (as opposed simply to high debt levels) associated with higher profitability?

In the article that follows, we use evidence from the large cotton-spinning firms to suggest that prominent executives probably raised firm value by bringing basic monitoring and disciplining skills and reputations that enabled them to certify firm quality. Those firms that appointed nationally prominent

* Professor of Economics, University of Tokyo, and Mitsubishi Professor of Japanese Legal Studies, Harvard University, respectively. We received helpful suggestions from Stephen Choi, Rui de Figueiredo, Ronald Gilson, Fumio Hayashi, Guy Holburn, Takeo Hoshi, Louis Kaplow, Naoto Kunitomo, John Lott, Tetsuji Okazaki, Eric Posner, Eric Rasmusen, Gary Saxonhouse, Pablo Spiller, Haruhito Takeda, Masayuki Tanimoto, Kazuo Wada, David Weinstein, Mark West, Noriyuki Yanagawa, an anonymous referee, and participants at workshops at the University of California, Berkeley, Harvard University, the University of Michigan, the National Bureau of Economic Research, and Trust 60. We gratefully acknowledge the generous financial assistance of the John M. Olin Program in Law, Economics and Business, Harvard Law School, the University of Tokyo Center for International Research on the Japanese Economy, and the Sloan Foundation.

[Journal of Legal Studies, vol. XXXI (June 2002)]
© 2002 by The University of Chicago. All rights reserved. 0047-2530/2002/3102-0003$01.50

273
directors did earn higher profits than their competitors in subsequent years. Profits did not further increase if a firm appointed a director with banking experience or textile-industry expertise. Apparently, the prominent directors brought business sense and reputational capital but not access to needed credit or technology.

We begin by outlining the issues at stake in the debate (Section IA) and summarizing the institutional structure of business in late nineteenth-century Japan (Section IB). In Section II, we use evidence on profitability in cotton spinning to ask which types of directors were most strongly associated with higher profitability among the large, internationally prominent firms. In Section III, we use evidence from prefectural records to check our conclusions against accounts of a more local economy.

I. Introduction

A. Issues at Stake

1. Hypotheses

Economic Transition and Boards of Directors. Eyeing contemporary eastern Europe, many observers (not all, to be sure) argue that stock markets should not work in transitional economies and that firms will need instead to depend on bank debt. In an earlier article in this journal, we showed that the most successful firms in turn-of-the-century (that is, turn-of-the-last-century) Japan relied on equity rather than debt and raised that equity broadly from many shareholders.¹ To reduce the incentive misalignments between managers and shareholders, they then adopted corporate governance arrangements that track the arrangements we see in the contemporary United States: they drained the firm of excess cash by paying high dividends, tied managerial pay to firm profits, relied on reputational sanctions in the managerial labor market, restricted managerial discretion by charter and statute, and actively recruited prominent industrialists to the board.²

We discussed the first few of these tactics in that earlier article. Here, we focus instead on the last: why did Japanese firms recruit these prominent industrialists? Recent scholarship suggests several possibilities: for example (the list is not exclusive), (1) they might have brought basic monitoring skills—knowledge of what to expect of managers and when and how to intervene, (2) they might have facilitated access to credit, (3) they might

² Miwa & Ramseyer, Corporate Governance in Transitional Economies, supra note 1; Miwa & Ramseyer, Banks and Economic Growth, supra note 1.
have provided technological expertise, or (4) they might have certified firm quality on behalf of other investors. Consider each in turn.

Monitoring Skills. Perhaps the nationally prominent directors simply monitored the firms well and knew when and how to intervene. They served on a wide variety of boards across the country. Perhaps through that experience they acquired the ability to judge how to structure a firm to reduce the risk of fraud and mismanagement, how to spot that fraud and mismanagement when it occurred, and what to do about it when it did. To the firms, perhaps nationally prominent directors simply brought basic, nontechnical managerial good sense.

In turn-of-the-century Japan, there would have been nothing obvious or straightforward about such managerial good sense. Traditionally, almost all firms had been small. Yet to run a modern cotton-spinning firm, managers needed to know how to organize and motivate hundreds or thousands of employees. At the larger firms, they also needed to know how to coordinate production at a multunit firm—something even Western managers began to learn only with the advent of the railroad. In the junior level, the most successful firms bought their modern managerial expertise by aggressively recruiting university graduates. At the senior level, perhaps they bought it by recruiting talent to their board.

Credit Access. On the other hand, maybe firms hoped their prominent directors would bring access to credit. In Insider Lending, Naomi Lamoreaux writes that nineteenth-century New England banks lent primarily to their directors or to those close to their directors. “[C]apital was scarce,” she explains, while “[i]nformation systems were still primitive, data about potential business dealings [were] difficult and costly to obtain, and people were not sure whom they could trust.” In this environment, bank “directors often funneled the bulk of the funds under their control to themselves, their relatives, or others with personal ties to the board.” Nor was this limited to New England. Indeed, much the same thing occurred in “other parts of the United States” and in much of the rest of the world.

Others have made similar arguments in different contexts. Carlos Ramirez, for instance, finds that turn-of-the-century U.S. firms with a partner from J. P. Morgan & Co. on their boards faced less severe liquidity constraints. Through their presence on the board, the partners “curtail[ed] the principal-agent problem and diminish[ed] the informational asymmetries between investors and managers.” Similarly, Takeo Hoshi, Anil Kashyap, and David Scharfstein apply the logic to the modern Japanese keiretsu groups. Because

---

1 Oliver E. Williamson, The Economic Institutions of Capitalism, ch. 11 (1985).
2 Miwa & Ramseyer, Corporate Governance in Transitional Economies, supra note 1.
of the allegedly longstanding ties between *keiretsu* firms and their banks, they argue, *keiretsu* firms too face fewer liquidity constraints than their peers.

If good information is scarce, in other words, lenders will lend to people with whom they have the closest contact. If credit comes from banks, then firms with close connections to bankers (firms with bankers on their board, for instance) will have the best access to credit. If credit is tight, then firms with bankers on their boards will suffer less from any credit shortage than their competitors. Ultimately, firms with bankers on their boards should have higher odds of success.

**Technological Expertise.** Prominent directors might also have brought access to technology. The spinning factories almost exclusively used English equipment. In this context, perhaps the right director could help a firm obtain the technology it needed. He could serve as a consultant himself or use his ties elsewhere to recruit others in the know. Suppose technological skills were scarce. If prominent directors could help obtain those crucial skills, firms with such directors would have a competitive advantage.

In turn-of-the-century Japan, some cotton-spinning firm directors did have that technological expertise. Kyozo Kikuchi, for example, simultaneously served as chief engineer for the Settsu, Hirano, and Amagasaki firms. In 1898, he also sat on the board of six textile firms (eventually he would become president of Amagasaki and Settsu). Had one of those firms wanted technological advice, in many cases, Kikuchi could have given it himself.

Other spinning firm investors may not have had the expertise themselves, but they knew where to find it. Ichizaemon Morimura ran Noritake China but also had invested in the spinning industry. When the Fuji boseki firm found itself in trouble early in its history, Morimura (the largest shareholder in the firm, though not a director) saved it. He did not save it through his own expertise. Rather, he saved it by recruiting the talented Heizaemon Hibiya—founder of Tokyo gasu boseki. After much hesitation, Hibiya arrived, restructured Fuji, and transformed it into a formidable competitor.

---


7 Nichibo, K.K., Nichibo 75 nenshi [The 75-year history of Nichibo] 9; Nippon zenkoku shokaisha yakuin roko, dai 6 kai [Record of officers of all Japanese firms, 6th ed.] (Shogyo koshin sho ed. 1897; reprinted, Kashiwa shobo 1988).

Quality Certification. In “Did J. P. Morgan’s Men Add Value?” J. Bradford De Long finds that turn-of-the-century U.S. firms with a Morgan partner on their board had higher stock prices (relative to book value) than their competitors. They earned this advantage, he explains, because the Morgan men certified firm quality. Once on the board, the Morgan men could “assess the performance of firm managers, quickly replace managers whose performance was unsatisfactory, and signal to investors that a company was fundamentally sound.”

The Morgan partners, continued De Long, “saw themselves—and other participants in the pre–World War I securities industry saw them—as filling a crucial ‘monitoring’ and ‘signaling’ intermediary role between firms and investors in a world where information about firms’ underlying values and the quality of their managers was scarce.” Morgan could charge high fees because its partners provided these certification services. It could offer the certification services credibly because its reputation for probity earned it a large stream of quasi rents on its substantial market share in the investment banking industry. And it could keep other firms from challenging its certifying role because reputations are easy to lose but hard to earn.

At least one prominent Japanese businessman did certify textile firm quality in the late nineteenth century. In 1886, several entrepreneurs tried to organize the Mie boseki firm (discussed extensively below). Unfortunately, potential investors remembered the government-sponsored cotton-spinning firms of a few years earlier. The government had organized these firms to introduce the English technology, but the firms had failed famously. Their failures, in turn, now made investors chary.

The man who intervened to change investor expectations was Eiichi Shibusawa. Shibusawa had already founded the giant Dai-Ichi Bank (predecessor to the Dai-ichi Kangyo Bank) and—perhaps more crucially—the highly successful Osaka boseki spinning firm. Faced with investor reluctance to invest in Mie, he used his family’s money to buy 200 of the 2,200 Mie shares.
Once he placed his money and reputation behind the firm, other investors soon followed.13

2. Equilibrium

Several years ago, Harold Demsetz and Kenneth Lehn noted that in equilibrium, firms would adopt the corporate governance arrangements that most effectively maximized firm value.14 In equilibrium, for instance, firms would appoint prominent industrialists to the board, if but only if they added value. Prominent industrialists might then benefit the firms on whose boards they served. Crucially for the empiricist, however, in equilibrium those firms would not necessarily outperform their rivals.

Although economies continually move toward equilibrium, exogenous shocks regularly disrupt the equilibrating process—all the more so in “transitional economies” such as turn-of-the-century Japan, where the shocks were unusually profound and disruptive. Within this world, entrepreneurs had little experience managing the problems they faced, and that made their selection of directors largely experimental.

Necessarily, the return on experimental processes such as director selection will diminish over time and—in the long run—converge on zero. Given the recency of the problem, however, for turn-of-the-century Japanese managers looking for good directors, that long-run convergence was still a long way off. Precisely because those managers did not yet know which types of directors suited their firm best, if prominent industrialists did add value, their firms should generally have outperformed the others.

B. Transitional Japan

In many ways like their counterparts in modern eastern Europe, managers and investors in turn-of-the-century Japan faced a radically transitional economy. Through the middle of the nineteenth century, the government had kept the West at bay but had done little to design institutional structures that would facilitate economic growth. Within this world, jurists had mostly worked through a haphazardly federal collection of national and provincial courts

bound by uncoordinated jurisdictional and substantive rules. Faced with a poorly run (for commercial purposes) court system, entrepreneurs had mostly relied on kin ties and raised capital within the family.

During the last decades of the nineteenth century and the first decade of the twentieth century, all this changed. The new government aggressively introduced Western legal arrangements. It launched its initial try at modern courts in 1878. It passed a modern constitution in 1889. It passed a French-based Civil Code in 1890, abandoned it before it took effect, and adopted a Russian-based Civil Code in 1896 and 1898. It adopted one Commercial Code in 1890, then replaced it with another in 1899. It adopted a Civil Procedure Code in 1890, a Criminal Code in 1880, a new Criminal Code in 1907, a Criminal Procedure Code in 1880, and yet another Criminal Procedure Code in 1922.15

In large numbers, Japanese entrepreneurs began to use this legal machinery. In 1894, there were 2,800 registered companies. By 1902, there were 8,600, and by 1910, 12,300. After a series of false starts, the economy boomed. Where per capita gross national product (in constant 1934–36 yen) had been 115 yen in 1890, by 1900, it was 141 yen, by 1910, 158 yen, and by 1920, 204 yen. Where 90 banks operated in 1881, by 1890 there were 210, and by 1900, 2,060.16

Within this economy, the cotton-spinning industry epitomized Japan in successful transition. If nothing else, it was huge. By the 1920s, Japanese spinning firms used more raw cotton than British firms. By the 1930s, they produced a fourth of all Japanese manufactured goods and employed 40 percent of all factory workers.17 They accomplished all this without affiliation to any of the zaibatsu conglomerates. Only the Mitsui had even a small interest in any spinning firm, and that it limited to Kanebo and to a few years.18 And the industry was relentlessly modern. The cotton-spinning firms used English machines, English know-how, and English personnel (as advisers). They even used English architecture—down to imported red bricks.19

17 Miwa & Ramseyer, Corporate Governance in Transitional Economies, supra note 1.
II. PROMINENT DIRECTORS IN COTTON SPINNING

A. Introduction

In the sections that follow, we explore the association between board composition and firm performance among the cotton-spinning firms. Toward that end, we collect information on firm size, profitability, shareholdings, and board composition from 1903 to 1911. We then ask whether having appointed directors of national prominence, directors most likely to provide access to banks, or directors best able to obtain technical expertise immediately before this period affects firm profits.

B. The Data

We take the identity of firm directors from an 1898 directory. To extract the information, we rely on published work by Yoichi Kobayakawa, Haruhito Shiomi, Tsuneo Suzuki, and Kazuo Wada and on a database they created from that directory.20

We obtain our firm financial data (accounting profits and number of spindles, on a semiannual basis) from an annual publication of the cotton-spinning trade association.21 We start this data with 1903 (when the publication began) and end it in 1911 (the end of the Meiji era). We close our data in 1911 because shortly thereafter the larger firms began integrating vertically in weaving operations. Given the resulting differential rates of integration, we could no longer readily compare profitability across firms.

The trade association (the Dai-Nippon boseki rengo kai) collected this information as part of its efforts to enforce a cartel in the industry. Toward that end, it periodically mandated percentage reductions in the fraction of existing spindles used by its members. It did not otherwise make production or investment decisions. More specifically, it did not try to limit investment in new equipment or facilities, to impose standard capital structures, to facilitate debt or equity finance, or to dictate board or managerial composition. It included most of the spinning firms (as of 1927, firms representing 94 percent of the spindles), coordinated cotton imports through the NYK ship-

20 Shogyo koshin sho ed., supra note 7; Yoichi Kobayakawa, Tsuneo Suzuki, & Kazuo Wada, Meiji no kaisha oyobi keieisha no kenkyu [A study of the firms and managers of the Meiji period], 9 [Chubu daigaku] Sangyo keizai kenkyusho kiyo 1 (1999); Kazuo Wada, Yoichi Kobayakawa, & Haruhito Shiomi, Meiji 40 nen jiten no Chukyo zaikai ni okeru juyaku kennin [Overlapping directorships in the Chukyo financial world in 1907], 6 Nanzan keiei kenkyu 215 (1992); Kazuo Wada, Yoichi Kobayakawa, & Haruhito Shiomi, Meiji 31 nen jiten no Chukyo zaikai ni okeru juyaku kennin [Overlapping directorships in the Chukyo financial world in 1898], 7 Nanzan keiei kenkyu 217 (1992). We thank Kazuo Wada for generously providing access to this database.

21 Dai-Nippon boseki rengo kai ed., Menshi boseki jijo sanko sho [Reference materials on cotton spinning] (various years).
prominent directors

ping firm (members obtained a discount), and enforced its periodic spindle idling by regularly inspecting factories.22

We compile shareholding data from work by Kazuo Yamaguchi. He lists shareholdings of the largest cotton-spinning investors as of about 1898. To learn whether a firm was listed on a stock exchange, we consult the official histories of the Tokyo and Osaka Stock Exchanges.23

Obviously, we would have preferred overlapping board composition and profitability data. It is less that board composition changed radically, for company histories suggest that board membership stayed relatively stable. It is more that overlapping data would have helped test the way changes in board composition affected profits over time and helped resolve endogeneity concerns. Unfortunately, the trade association collected data only for 1903 and after, while Kobayakawa and coauthors compiled board composition data only for 1898. Overlapping board composition and profitability data simply are not available.

Given the problems inherent in all accounting data, reliability is an obvious issue. Nonetheless, we know of no reason any errors introduced by the data would be correlated with board composition. The trade association did check the information as part of its cartel-enforcement efforts. Because it coordinated raw cotton imports and inspected factories, it had access to independent information both on the amount of raw cotton each firm consumed and on the capital stock each used.

C. The Variables

We define the following variables and include summary statistics in Table 1.

1. Dependent Variable

Profits. The natural log of the firm’s semiannual accounting profits, 1903–11. The database includes 32 firms. For convenience, in Table 1 we give the profits in thousands of yen rather than logs.

Explanation. As we discuss below, our use of ordinary least squares (OLS) with the pooled sample raises issues of bias created by the potential correlation of firm profits across time. If the number of firms had remained stable through the period, we could address the problem by using the 1903–11 mean of a firm’s profits as our dependent variable. Unfortunately, because many firms disappear over the course of the period (often through merger),

22 For a general discussion of the cartel, see Ramseyer, supra note 15.

TABLE 1
FIRM PROFITABILITY IN COTTON SPINNING: SUMMARY STATISTICS

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Mean</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variables:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semiannual profits (in</td>
<td>−126</td>
<td>154</td>
<td>1,559</td>
</tr>
<tr>
<td>thousands of yen)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board composition variables:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banker</td>
<td>0</td>
<td>.516</td>
<td>1</td>
</tr>
<tr>
<td>Spinner</td>
<td>0</td>
<td>.768</td>
<td>1</td>
</tr>
<tr>
<td>HighProm</td>
<td>0</td>
<td>.247</td>
<td>1</td>
</tr>
<tr>
<td>LowProm</td>
<td>0</td>
<td>.418</td>
<td>1</td>
</tr>
<tr>
<td>Control and instrumental variables:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total spindles (in thousands)</td>
<td>1,538</td>
<td>51,546</td>
<td>377,920</td>
</tr>
<tr>
<td>Largest10S/h</td>
<td>.113</td>
<td>.316</td>
<td>.608</td>
</tr>
<tr>
<td>Listed_10yr</td>
<td>0</td>
<td>.447</td>
<td>1</td>
</tr>
<tr>
<td>Total_S/h</td>
<td>29</td>
<td>406.534</td>
<td>907</td>
</tr>
<tr>
<td>College</td>
<td>0</td>
<td>.002</td>
<td>.014</td>
</tr>
<tr>
<td>Osaka</td>
<td>0</td>
<td>.242</td>
<td>1</td>
</tr>
<tr>
<td>Tokyo</td>
<td>0</td>
<td>.042</td>
<td>1</td>
</tr>
<tr>
<td>Nagoya</td>
<td>0</td>
<td>.013</td>
<td>1</td>
</tr>
</tbody>
</table>


Note.—Note that each observation is a semiannual (rather than annual) accounting period. \( N = 380 \), except for Total_S/h, where \( N = 388 \).

Note that the firms losing money do not drive the results, as we use the log of profits in our regressions but assign a value of zero to firms with negative profits.

2. Board Composition Variables

**Banker.** This variable is assigned a value of one if a firm had any directors at a firm in 1898 who had a banking background and served on the boards of six or more firms nationally, and zero otherwise.

**Explanation.** To test whether a bank-affiliated director might facilitate access to credit, we first identify director affiliation immediately before this period. We do so by asking whether Kobayakawa and coauthors (they identify all directors on six or more boards in 1898—275 directors) list a director as having had a banking background. At one level, this is an overly broad

24 Kobayakawa, Suzuki, & Wada, supra note 20.
rule. It covers anyone with substantial connection to a bank—professional bankers, to be sure, but also anyone who ever served on a bank board. We nonetheless use it because even nonprofessional bankers (if on the board of a bank) might have helped a spinning firm obtain credit.

*Spinner.* This variable is assigned a value of one if a firm had any directors at a firm in 1898 who simultaneously served on the boards of two or more cotton-spinning firms, and zero otherwise.

*Explanation.* To explore whether a technologically sophisticated or well-connected director might provide access to the necessary expertise, we identify those directors most likely to have that sophistication or access. Toward that end, we ask whether a director served in 1898 on the boards of two or more cotton-spinning firms. If he did, we presume that he probably had better access to such expertise than other directors. We base this on information provided to us by Wada independently of the study by Kobayakawa and coauthors.

*HighProm.* This variable is assigned a value of one if a firm had any directors at a firm in 1898 who were on the board of 16 or more firms nationally in any industry, and zero otherwise.

*Explanation.* To ask whether prominent directors added value by certifying credibly, we hypothesize that those serving on 16 or more boards nationally (HighProm; 12 directors total) could certify effectively (as they would likely have reputations for picking investments well) but would be too busy to monitor with care; those on fewer boards would be more likely to have the time to monitor and intervene. By this measure, Shibusawa was the most prominent of them all, simultaneously serving on the boards of 31 firms.\(^{25}\)

*LowProm.* This variable is assigned a value of one if the firm had any directors at a firm in 1898 who served on at least six but fewer than 16 firms, and zero otherwise.

*Explanation.* We use this as a test for basic monitoring expertise. These directors, we argue, would likely have had the time to monitor, even if they may have lacked the visibility to certify.

3. Control and Instrumental Variables

*Total_Spin.* The total number of spindles. We convert mule spindles to ring-spindle equivalents by dividing by 1.3.

*Largest10S/h.* The total percentage of the firm’s shares held by the 10 shareholders with the largest interests, as of about 1898.

*Total_S/h.* The total number of firm shareholders, as of 1898.

*Listed_10yr.* This variable is assigned a value of one if the firm listed

\(^{25}\) He was followed by Jutaro Matsumoto, on the board of 28 firms. Inter alia, Matsumoto founded the 130th National Bank and served as president of the San’yo railroad.
The fraction of the workforce with a college education, as of 1914.\textsuperscript{26}

We use year dummies and geographical dummies (whether a firm was headquartered in Tokyo, Osaka, or Nagoya) as well.

We do not use firm dummies. Because we explore the effect of board composition on firm performance, we instead sort the firms according to their initial board membership. More specifically, we sort the firms by the composition of their boards in 1898. We then use the resulting "group affiliation" variables to explain 1903–11 performance. Given that the group affiliation variables are specific to the firms and invariant over the period, the procedure is necessarily incompatible with the use of firm dummies.

\textbf{D. The Regressions}

1. Pooled Ordinary Least Squares on Panel Data

We posit that nationally prominent directors added value by bringing basic managerial expertise and that the most prominent of all may have provided additional value—perhaps by certifying firm quality. For reasons explained below, we doubt that directors further benefited the firm by bringing access to bank credit or spinning technology.

To test these hypotheses, we regress the log of firm profits on our board composition and control variables. Using a pooled OLS regression on panel data, we ask which type of director was most strongly associated with higher firm profitability. We report our results in Table 2, regression (1). Most basically, firms with prominent directors in 1898 did indeed have higher profits in 1903–11: in the basic pooled regression (Table 2, regression (1)), the coefficients on both HighProm and LowProm are positive and strongly significant. Firms with directors who served simultaneously on six or more boards in 1898 did earn higher profits than their peers in 1903–11.

Just as strikingly, bank affiliation and multiple-spinning-firm affiliation are not associated with higher profitability than that associated with more mundane levels of prominence. Director prominence held constant, bank-affiliated directors are not associated with higher profits, as the significantly negative coefficient on Banker reflects. Director prominence held constant, spinning-firm-affiliated directors are not associated with higher profitability either.

\textsuperscript{26} From Shin’ichi Yonekawa, University Graduates in Japanese Enterprises before the Second World War, 26 Bus. Hist. 193 (1984). Yonekawa gives all firms with at least 20 university graduates; where he does not list a firm, we set the value at zero.
2. Two-Stage Least Squares

**Endogeneity.** The apparent value added to prominent directors in the pooled OLS regression raises obvious issues of endogeneity. Would not all firms have chosen the directors who would be most appropriate to that firm? Might not prominent directors have selected the firms at which they served on the basis of the firm’s expected profitability?

In fact, the argument that board appointments were endogenous to profitability is less plausible than it initially appears. First, we regress 1903–11 profitability on appointments 5–13 years earlier.Obviously, directors (who were also investors) would have tried to pick the firms they thought most likely to succeed. Yet we suspect that most would have found it hard in 1898

---

### Table 2

**Firm Profitability in Cotton Spinning: Regressions on Panel Data**

<table>
<thead>
<tr>
<th></th>
<th>Pooled OLS (1)</th>
<th>2SLS (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Board composition variables:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banker</td>
<td>$1.039 (2.28)$</td>
<td>$-3.892 (4.97)$</td>
</tr>
<tr>
<td>Spinner</td>
<td>$-1.135 (.35)$</td>
<td>$-2.972 (2.14)$</td>
</tr>
<tr>
<td>HighProm</td>
<td>$2.421 (4.13)$</td>
<td>$7.263 (6.01)$</td>
</tr>
<tr>
<td>LowProm</td>
<td>$1.776 (4.33)$</td>
<td>$4.210 (6.17)$</td>
</tr>
<tr>
<td><strong>Control variables:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total_Spin</td>
<td>$.127 (4.17)</td>
<td>$.029 (.73)$</td>
</tr>
<tr>
<td>List_10yr</td>
<td>$1.137 (3.32)$</td>
<td>$1.824 (4.55)$</td>
</tr>
<tr>
<td>College</td>
<td>$.68366 (1.40)</td>
<td>$239.235 (3.72)$</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.38</td>
<td>.26</td>
</tr>
</tbody>
</table>


**Note.** Coefficients, followed by the absolute value of the $t$-statistics. OLS = ordinary least squares; 2SLS = two-stage least squares. The dependent variable is the natural log of the semiannual profits for each firm, 1903–11. Regression (2) treats HighProm as endogenous. For instrumental variables, it uses Largest10S/h, Total_S/h, and the geographical dummies, along with the year dummies, Banker, Spinner, LowProm, Total_Spin, List_10yr, and College. The coefficients for Total_Spin are multiplied by 10,000. All equations include a constant term and year dummies. $N = 380$. 

---

27 Although firms would have competed for the best-suited directors, during this period they would have been only haphazardly successful. It would have taken substantial time for the director’s monitoring efforts to affect firm profitability and longer still for that information about appropriate director choice to become common knowledge. Within this environment, firms largely operated by trial and error. They shared no consensus on many basic managerial issues and no consensus about what kinds of director added the most value to what kinds of firms.
to pick the firms that would be most profitable in 1903–11. Firms competed in a roller-coaster economy and operated factories of (for Japan) almost unprecedented size, used unfamiliar technology, and sold into an international market. Given the pace of change and the fundamentally unfamiliar nature of this industry, we doubt many directors in 1898 could successfully have predicted the firms that would thrive a decade later.

Second, firms picked most of their directors (other than the HighProm directors; see below) when they incorporated or began operations. To be sure, the directors would generally have known the men who were to operate the business (as we discuss in Section III). Still, they would have come to the firm before it had ever earned a profit.

Nonetheless, the possibility that director selection was endogenous clearly remains. The odds are highest with the HighProm directors. Because the less prominent directors included the firm’s founders, the more prominent had disproportionately joined the management team later. As a result, even if director prominence be associated with firm profitability (as Table 2, regression (1), indicates it is), that association need not indicate that prominent directors caused the firms to succeed. Instead, such directors might have gone to a firm because the firm had succeeded or (on the basis of other firm-specific factors such as private information about a firm’s potential future profitability) because they expected the firm to succeed in the near future.

The Test. To address these issues, we treat the most prominent directors (the HighProm directors) as endogenous and apply two-stage least squares to the pooled sample. We hypothesize (1) that the firms that chose these directors were ones that needed equity from public sources and could best research potential directors, while (2) these directors picked the boards on which they served in ways that reflected whether the firm could make them individually tailored offers and the ease with which they could monitor the firm. We instrument our endogenous regressor HighProm with variables that reflect these factors.

Toward that end, we first posit that the firms headquartered closest to population and business centers could most successfully attract nationally prominent directors. The more remote firms were not necessarily less efficient producers. If nothing else, they often enjoyed lower wage bills. In a world without modern communication and transportation facilities, however, they would have faced substantial hurdles in recruiting famous executives. They would have found it harder to learn which men could help them the most, while the men themselves would have found it harder to monitor the firm and certify its quality. To capture these considerations, we use dummy variables for whether a firm was headquartered in Tokyo, Osaka, or Nagoya.

Second, we posit that firms controlled by a small number of shareholders could most effectively offer prominent directors the packages they wanted. To run a textile firm successfully for a couple of decades in the way initially planned need not have required managerial flexibility. Indeed, the more
flexibly run the firm, the higher its risk of loss from mismanagement and fraud. Yet to recruit prominent directors, a firm needed first to investigate which business leaders could best help the company (not a straightforward task—in this transitional environment, it was far from obvious to the people involved just what skills a firm needed in a director), what such directors valued, and what packages would most likely attract them. To do all this successfully, a firm did need flexibility. We posit that firms controlled by a small group of shareholders could more effectively undertake such tasks than firms whose investors faced major collective action problems. Hence, we add Largest10S/h.

Last, we posit that the firms that needed to raise funds broadly were more likely to try to recruit directors with national reputations. To be sure, the more profitable firms were more apt to need funds than the less profitable. Yet a successful spinning firm did not necessarily need to raise its funds broadly. Many could have raised the cash from a smaller group of wealthy investors. Those firms that did need access to a larger equity pool, though, would have benefited from widely respected directors. Hence, we use Total_S/h.

The resulting two-stage results (see Table 2, regression (2)) confirm the results from the basic pooled OLS regression. Again, both coefficients on director prominence are positive and strongly significant. By contrast, the coefficients on bank and spinning-firm affiliation are significantly negative. Firms with prominent directors in 1898 did have higher profits in later years; director prominence held constant, firms with directors who brought access to credit or spinning technology did not have higher profits.

3. Alternative Specifications

**Firm-Specific Effects.** Suppose that a firm’s profits in a given year are correlated with its profits in other years but not with the profits at other firms. As we discussed earlier, our Table 2 estimates on the pooled sample will generate biased results. That some firms survive while others fail and disappear from the sample may bias them further. Again as we noted earlier, because our director variables are firm-specific dummies for 1898 values, we do not add firm dummies to address this problem.

Instead, in regression (1) of Table 3, we rerun our OLS regression on the mean profitability at each firm. More specifically, for our dependent variable, we use the mean profits of each for the biannual period closest to the time of director appointment, 1903–4. Through this procedure, we obtain results consistent with our broader sample: the coefficient on Banker remains significantly negative, the coefficient on Spinner insignificant, and the coefficients on HighProm and LowProm significantly positive.

**HighProm/LowProm.** One might also ask whether our results hinge on the choice (admittedly arbitrary) of 16 boards as the line between the
### TABLE 3

**Firm Profitability in Cotton Spinning: Alternate Specifications**

<table>
<thead>
<tr>
<th></th>
<th>OLS on 1903–4 Mean Profits</th>
<th>Pooled OLS with HP18 and LP18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Board composition variables:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banker</td>
<td>$-0.931$ (2.02)</td>
<td>$-1.403$ (3.16)</td>
</tr>
<tr>
<td>Spinner</td>
<td>$-0.480$ (1.02)</td>
<td>$-0.271$ (.71)</td>
</tr>
<tr>
<td>HighProm</td>
<td>$2.093$ (3.48)</td>
<td></td>
</tr>
<tr>
<td>LowProm</td>
<td>$1.332$ (2.67)</td>
<td></td>
</tr>
<tr>
<td>HP18</td>
<td></td>
<td>$3.241$ (5.37)</td>
</tr>
<tr>
<td>LP18</td>
<td></td>
<td>$1.879$ (4.62)</td>
</tr>
<tr>
<td><strong>Control variables:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total_Spin</td>
<td>$.17$ (2.95)</td>
<td>$.100$ (3.17)</td>
</tr>
<tr>
<td>Listed_10yr</td>
<td>$.778$ (1.81)</td>
<td>$1.400$ (4.00)</td>
</tr>
<tr>
<td>College</td>
<td>$31.818$ (.47)</td>
<td>$108.008$ (2.27)</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>$.57$</td>
<td>$.39$</td>
</tr>
<tr>
<td>$N$</td>
<td>35</td>
<td>380</td>
</tr>
</tbody>
</table>


**Note.**—Coefficients are presented, followed by the absolute value of the $t$-statistics. Coefficients on TotalSpin are multiplied by 10,000. For regression (1), the dependent variable is the natural log of the mean profits for each firm for 1903–4. OLS = ordinary least squares.

HighProm and LowProm variables. To explore this issue, we calculate HP18 and LP18 (where HP18 is a dummy indicating whether a firm had any directors in 1898 who served on the board of 18 or more firms nationally) and HP14 and LP14 (analogously defined for 14 or more firms). As of 1898, seven directors served on the boards of 18 or more firms, 12 on the boards of 16 or more firms, and 20 on the boards of 14 or more firms.

Again, the procedure yields results consistent with our earlier conclusions. With HP18 and LP18, Banker remains significantly negative, Spinner insignificant, and the director prominence variables significantly positive. With HP14 and LP14, the categorization changes for none of the firms in the sample. Accordingly, the results are identical to those for HighProm and LowProm.

### E. Discussion

#### 1. Credit Access

Why these results? For directors to boost firm profitability by facilitating access to bank loans, credit would have to have been critically important in
TABLE 4

DEBT/TOTAL ASSET RATIOS AMONG COTTON-SPINNING FIRMS, BY SIZE

<table>
<thead>
<tr>
<th></th>
<th>I (Largest)</th>
<th>II</th>
<th>III</th>
<th>IV (Smallest)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1905</td>
<td>10.9</td>
<td>3.3</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>1910</td>
<td>17.1</td>
<td>17.5</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>1915</td>
<td>15.1</td>
<td>8.6</td>
<td>4.8</td>
<td>22.1</td>
</tr>
</tbody>
</table>

**Source.**—Sen’i kogyo [The textile industry] 76–77 (Shozaburo Fujino, Shiro Fujino, & Akira Ono eds. 1979).

**Note.**—All values are percentages. We follow the accounting definitions and size categories given in the Fujino, Fujino, and Ono study. Debt includes bank debt and bonds; total assets are the sum of paid-in capital, accumulated reserves, debt, current reserves, and carryforwards. N.A. = not available.

an industry. For the credit access hypothesis to apply, in short, a spinning firm’s ability to borrow money would need to have been vital. According to our tests, the credit access hypothesis does not apply—and the reason lies in the apparent ease with which spinning firms could raise equity.

Cotton-spinning firms simply did not borrow. Instead, they sold stock, as other recent research has shown.28 Take the classic Hitotsubashi University study of long-term Japanese economic growth. The study divides spinning firms into four groups, roughly on the basis of descending size. For 3 selected years, the firms in these four categories had debt-to-total assets ratios given in Table 4.29

Although the firms did borrow, in all size groups, they mostly financed their operations through equity issues to a large group of investors—in our sample, a mean of about 400 shareholders each (see Table 1).30 In doing so, they seem not to have faced serious problems. Time and again, they raised capital by issuing new stock.31 Hypothetically, perhaps only the most established firms could issue new stock. If so, then perhaps the smaller firms recruited banker directors to offset that disadvantage by raising debt instead. Even that, however, seems not to have happened. As the data show, smaller firms did not borrow more heavily than large firms.

Careful readers will note the way these results contradict the accounts of “main banks” in contemporary Japan. According to many observers, having access to such a bank matters crucially to a modern Japanese firm. Not only will a main bank lend it funds. It will facilitate access to funds by serving

28 Miwa & Ramseyer, Corporate Governance in Transitional Economies, supra note 1; and Miwa & Ramseyer, Banks and Economic Growth, supra note 1.
29 Note that banks did lend to individuals, sometimes taking stock as collateral. To the extent that spinning-firm investors used their stock to borrow from banks, banks would indirectly have funded the industry.
30 Nor were they equity issues to the zaibatsu—which did not heavily invest in the cotton textile industry. The zaibatsu did not rely on debt finance anyway, as we discuss in Miwa & Ramseyer, Banks and Economic Growth, supra note 1.
31 Miwa & Ramseyer, Corporate Governance in Transitional Economies, supra note 1.
as a delegated monitor for other lenders and agreeing to stand last in line should the firm default. Consistent with such commitments, it will regularly second bank officers to the boards of its client borrowers. In fact, we show elsewhere that even for the postwar period, these tales were mythical. Other data show that high levels of debt among prewar firms were not associated with higher value. Here, we suggest that access to potential debt in the form of banker directors seems not to have been associated with higher profitability either.

2. Technological Access

The lack of positive coefficients on Spinner reflects the ease with which technological information flowed among firms in the industry. For firms to have earned higher profits because their directors helped them obtain technological expertise, the expertise would have to have been scarce. In fact, it was not. Explains Gary Saxonhouse, the spinning firms openly shared technology. Because they competed on a highly competitive international market, firm A was unlikely to lose sales by aiding firm B. To the extent that firms shared technology openly, a firm would not earn higher profits simply because one or more of its directors knew engineers elsewhere.

Even personnel practices reflect the porous character of the technology. Kuwahara was an early spinning firm in the Osaka area. Once it began operations, new firms regularly sent their workers there as trainees to learn how to operate the machines. Other new firms sent their workers to the Owari, Mie, and Kishiwada firms. Analogously, we noted the way Kikuchi simultaneously served as chief engineer for the Settsu, Hirano, and Amagasaki firms. He was not alone. While working as chief engineer for the Owari spinning firm, Shun’ichi Hattori helped plan and direct operations at the Chita, Kuwana, and Tsushima firms. Tanizo Kakinuma simultaneously

---

32 Hayashi, supra note 6; Miwa & Ramseyer, The Myth of the Main Bank, supra note 6; and Miwa & Ramseyer, Fable of the Keiretsu, supra note 6; Yoshiro Miwa, Firms and Industrial Organization in Japan, ch. 6 (1996); J. Mark Ramseyer, Explicit Reasons for Implicit Contracts: The Legal Logic to the Japanese Main Bank System, in The Japanese Main Bank System, ch. 7 (Masahiko Aoki & Hugh Patrick eds. 1994).
33 Miwa & Ramseyer, Banks and Economic Growth, supra note 1.
34 To be sure, it could also reflect the crudeness of our proxy for access to technological expertise. After all, Kyozo Kikuchi (who served on seven boards, four of them in the spinning industry) knew the industry. But some of the other men who served on two or more spinning-firm boards probably knew very little about cotton spinning.
36 Nonetheless, a puzzle does remain: the more efficient firms eventually acquired many of their less efficient competitors, and helping them with technology would presumably have raised the later acquisition price.
served as president of the Shimotsuke and Tokyo boseki firms and director of the Fuji gasu boseki firm. 37

3. Prominence

Monitoring. Notwithstanding the absence of any additional positive value to bank or multiple-spinning-firm affiliation, firms with prominent directors in 1898 did earn distinctly higher profits than their peers in succeeding years. The results suggest (obviously do not prove) that the directors brought basic monitoring skills. These directors were prominent because they knew how to monitor firms and when to intervene in management. To make un-diversified investments successfully, they did not just need to know how to spot winners. They also needed to know how to monitor and intervene. To the firms, they apparently brought what we might colloquially call basic, nontechnical managerial good sense.

The spinning firms went out of their way to help directors (and investors) monitor performance. For the spinner trade association’s monthly newsletter, spinning firms submitted a variety of crucial data: the number of operating spindles, the days worked per month, the hours worked per day, the average count of the yarn produced, the quantity of yarn produced, the quantity of cotton consumed, the quantity of coal consumed, the number of workers employed, and the average wage paid. 38

Because most firms used virtually identical machines to manufacture a virtually identical product, a director could in turn use these data to gauge productive efficiency across the industry. Several decades ago, George Stigler suggested that firms had an incentive to disclose information in order to compete more successfully in the capital market. 39 In Japan—even in transitional Japan, before its informal induction into the club of advanced capitalist economies—the spinning firms disclosed with a vengeance.

Monitoring and intervention were also activities on which these industrialists could readily earn a return. At some firms, for example, they collected compensation tied directly to firm performance. Indeed, some firms promised by charter to pay a stated percentage of profits to their incorporators. 40 Even when not receiving profit-based compensation packages, most of these men had nontrivial equity investments in the firm. Obviously, their return on that investment depended on how well the firm did.

Certification. De Long’s logic (augmented in work by Ramirez) suggests

37 On Owari, Mie, and Kishiwada, see 2 Kinukawa, supra note 8, at 214; 7 id. at 65–72. On Hattori, see 4 id. at 320–21. On Kakinuma, see 1 Zaikaibutsu koketsubutsu den [Accounts of the late leaders of business] 403 (Jitsugyo no sekai sha ed. 1936).
that the best-known Morgan directors may have certified firm quality in the United States. The significantly positive coefficients on HighProm indicate that the phenomenon may well have occurred in Japan as well. Granted, the distinction between monitoring and certification is tenuous enough to make in theory, and harder still in practice. We assume that the HighProm directors were too busy to monitor, but the assumption is crucial. If they did monitor (by, for example, hiring advisors for that purpose), then the positive coefficient on HighProm could simply reflect their superior monitoring capability.

4. Caveats

Given positive transactions costs, the optimal level of mismanagement and fraud would not have equaled zero, and zero it was not. Instead, accounts of turn-of-the-century firms suggest some spinning firms went bad in a costly way and did so while directors stood idly by. Sometimes the problem involved mismanagement. Sometimes it involved fraud.

Take the Naniwa boseki firm, formed in 1889. 41 From the start, its founders dreamed that it would rival the 60,000-spindle Osaka boseki. Its first factory would have 17,000 spindles, they suggested. Soon they would build a second with another 40,000. The firm did seem to know what it was doing. It sold equity to major Osaka-area industrialists and even to the Sumitomo family. Its key officers had senior management experience at a prominent spinning firm. Its chief engineer went to England to study production, and it hired two English engineers to work on site.

Soon after its formation, however, the firm suffered several pieces of extraordinary bad luck. In 1890, a financial panic hit. Many shareholders had bought stock on credit and had not yet paid the full amount of par. As interest rates spiked, they found themselves unable to make the required additional capital contributions. The following year, the firm lost its factory in an earthquake.

With these calamities, fraud and mismanagement proceeded apace. At the 1890 shareholders meeting, the board announced that the president had already stolen 9,275 yen (the capital allocated for the first factory was 250,000 yen). The directors resigned, but the money was gone, and they never offered to make good the loss.

Concurrently, Naniwa also discovered that its equity solicitation agent had lost the money he had held in trust. For a variety of firms, he had collected from investors the required capital contributions. Rather than immediately deliver the money to the firms, however, he had invested it in his own business. Caught in the 1890 panic, he went insolvent and disappeared—and Naniwa lost the money because of it. Alas for Naniwa, though, Settsu moved quickly and

41 6 Kinukawa, supra note 8, ch. 13.
took all the leviable assets the agent had left behind. By the time Naniwa arrived, it found nothing left to take. Once again, the firm lost money while the directors slept. Once again, the directors did nothing to make good the loss they caused.

By 1891, Naniwa stock representing paid-in capital of 50 yen per share just 2 years earlier now traded for 24–28 yen per share. The firm continued to operate erratically for several years. By 1898, it dissolved.

### III. Prominent Directors in Aichi Prefecture

#### A. Introduction

To check our conclusions against a very different database, turn to a nonstatistical, detail-intensive account of one prefecture. Located 200 miles west of Tokyo and 100 miles east of Osaka, Aichi prefecture commands an important though not dominating demographic and economic presence. At the turn of the century, it had a population of 630,000 out of a national population of 47 million. Its capital city Nagoya had a population of 240,000, while Tokyo had 1.4 million, Osaka 820,000, and Kyoto 350,000. As of 1891, it produced about 5 percent of the total national textile output—4.6 million yen out of about 100 million yen’s worth. Only Gunma prefecture (near Tokyo), Kyoto, and Osaka produced more.

#### B. Banks

Aichi records clarify why bank-affiliated directors were not associated with higher value added: banks lacked the means to fund them. As of 1898, there were 57 banks and the six Aichi cotton-spinning firms given in Table

---

**TABLE 5**

**FOUNDED DATA PAID-IN CAPITAL AMONG AICHI COTTON-SPINNING FIRMS, AS OF 1898**

<table>
<thead>
<tr>
<th>Founded</th>
<th>Paid-in Capital (1898) (yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nagoya boseki</td>
<td>1885</td>
</tr>
<tr>
<td>Owari boseki</td>
<td>1887</td>
</tr>
<tr>
<td>Tushima boseki</td>
<td>1893</td>
</tr>
<tr>
<td>Ichinomiya boseki</td>
<td>1895</td>
</tr>
<tr>
<td>Chita boseki</td>
<td>1896</td>
</tr>
<tr>
<td>Kamesaki boseki</td>
<td>1896</td>
</tr>
</tbody>
</table>

5. Unable to raise the capital it needed, Kamesaki soon folded without ever spinning thread. Of the 57 banks in 1898, most were small, recently opened enterprises. Indeed, so small were they that they could not have funded the spinning firms except through widespread collaboration. When Nagoya boseki began in 1885, only six of the 57 1898 banks were around. The largest was the Nagoya bank, but even it had (1898) paid-in capital of only 320,000 yen. Even the biggest, it seems, was capitalized at less than half the size of the first spinning firm.

By the end of 1887, when Owari began, only one more bank (the Toyohashi bank, with paid-in capital of 200,000 yen) was in business. By the beginning of 1893, when Tushima began, the 1898 directory discloses 11 banks. Still, the largest remained the Nagoya bank, with (1898) paid-in capital of only 320,000 yen.

Not until the time of the last three spinning firms had many of the 1898 banks begun to operate. According to the 1898 directory, 10 banks opened in 1893, 16 in 1894, and four more in 1895. Nonetheless, most remained far smaller than the spinning firms. As of the end of 1895, for example, the biggest was the Kamesaki bank, with (1898) paid-in capital of 800,000 yen. Second came the Nagoya bank with its 320,000 yen, followed by the 134th bank (300,000 yen), the Tushima and Shogyo banks (225,000 yen each), and the 11th and Toyohashi banks (200,000 each). By 1895, several banks had finally begun to rival the spinning firms in capitalization. Even they, though, still did not dominate the spinning firms.

C. Capital Markets

Wide Investor Range. That spinning firms could not borrow what they needed from banks did not necessarily stop them from raising the funds they needed. They simply issued stock. As with Kamesaki, they sometimes failed at the attempt (though we have little reason to think a large bank would have been more generous than individual investors). But often they succeeded.

43 We focus on 1898 to coincide with Wada, Kobayakawa, & Shiomi, supra note 20.
44 Kinukawa, supra note 8, at 98.
45 Paid-in capital refers to haraikomi shihon kin. Bear in mind several obvious caveats. First, we examine the records as of 1898; presumably, there had been other banks earlier that had already failed by 1898. As we note earlier, however, as of 1881, there were only 90 banks in the entire country. Second, firms can increase paid-in capital over time, such that their capital in 1898 might exceed what it had been earlier. Third, the usual warnings about using capital accounts to judge firm size apply. Tokyo banks might have had sufficient capital to fund the Aichi spinning firms but would have lacked the information necessary to evaluate credit risks in Aichi.
46 In 1896, the Aichi bank and the Meiji bank were formed, with paid-in capital of 1 million yen and 750,000 yen, respectively.
And the other five Aichi spinning firms raised massive amounts of equity capital indeed.

Crucially, the spinning firms did not raise their money from a small clique. Instead, they raised it more broadly from several hundred investors a piece, and each from a different group of such investors. Kazuo Yamaguchi lists all spinning-firm (other than Kamesaki) shareholders as of 1898 who held more than 100 shares. In Table 6, we report the number of shareholders listed by Yamaguchi and the total shareholders.47 Of the 28 largest shareholders at Nagoya, only three appear as major shareholders at any of the other four firms. Of the 24 at Owari, only four appear elsewhere; of the 12 at Tsushima, only two appear elsewhere; of the 14 at Ichinomiya, only one appears elsewhere; and of the 22 at Chita, only two appear elsewhere.

Or take the two spinning firms in adjacent Mie prefecture: Mie boseki and Kuwana boseki.48 The two firms had only one major shareholder in common. Mie had no major shareholders in common with any of the five Aichi firms; Kuwana had two in common with Owari but none with any other. Enough investors were willing and able to buy spinning-firm stock, in other words, that each firm could form its own group of supporters.

**Local Bias.** Importantly, 1898 capital markets were local. Again, of the 28 major Nagoya shareholders, 26 were from Aichi prefecture; of the 24 Owari shareholders, 23 were from Aichi; of the 12 Tsushima shareholders, 10 were from Aichi; and of the 14 Ichinomiya and 22 Chita shareholders, all were from Aichi. Consider the two firms in neighboring Mie prefecture. The aggressive Mie boseki firm, with national business icon Eiichi Shibusawa on the board, had six of its 24 major shareholders from outside Mie prefecture.

---

47 Yamaguchi, supra note 23, at 10–16.

48 For obvious reasons, we ignore Ise boseki, discussed in detail below.
Yet here, too, three of the six were from prefectures (such as Aichi) that bordered on Mie. Of the 21 major shareholders at Kuwana, 16 were from Mie, three from Aichi, and two from Tokyo.

Even this discussion understates the local bias, for most spinning firms drew primarily from areas much smaller than the prefecture itself. Most of the shareholders in the giant Kurashiki firm, for example, came from the village of Kurashiki in Okayama prefecture. The Aichi firms drew not from all of Aichi prefecture but from distinct areas within it. The Chita shareholders primarily lived in Handa, while the Ichinomiya firm’s shareholders came from Ichinomiya, and the Tsushima firm’s shareholders from Tsushima. Indeed, this restricted geographical scope probably explains most of the absence of investor overlap among the firms.

The reasons for the local bias lay in the risk of fraud. As in contemporary eastern Europe, so too in turn-of-the-century Japan: managers could and did hide and steal. To mitigate the problem, investors sought firms with people they knew (or of whom they knew). In the days before modern transportation and telecommunications, this meant that they invested in local firms. Earlier, we related the travails of the Naniwa firm. Turn now to the Ise spinning firm.50

Formed in 1894 in Mie prefecture (adjacent to Aichi), Ise boseki was odd.51 Of its 14 incorporators, eight were from Kobe, two from Kyoto, two from Shiga, one from Okayama, and one from Ishikawa. None were from Mie, and of these areas, only Kyoto and Shiga even abut Mie. Odd things began happening almost immediately. When they applied for the requisite operating license, for instance, the incorporators had specified by charter that they would provide 85 percent of the capital. Once they obtained the license, they amended the charter and started selling the stock to the Mie public.

Curiouser and curiouser, of its initial 100,000 yen capital, the Ise firm planned to spend 18,500 yen on the plant and equipment of the nearby Nippon white rice firm. Why a cotton-spinning firm would want rice-cleaning equipment is anyone’s guess, of course. But crucially, the leading shareholder in the Nippon firm was a Kobe machinery importer named Ryutaro Hanta. Hanta was also the leading shareholder in Ise. Nippon had earlier failed because Hanta had sold it inappropriate old machines, cleaned and polished to look new.

Of the same 100,000 yen capital, the Ise firm also planned to use 39,500 yen to buy spinning machines. Hanta sold it these machines too. Again, he sold inappropriate obsolete models. According to rumor, he may even have delivered used machines. Doomed from the start, Ise went nowhere. The

49 Yamaguchi, supra note 23, at 10–16.
50 5 Kinukawa, supra note 8, ch. 16.
51 It was formed in Yokkaichi city, home to the Mie boseki firm. Presumably, the organizers were trying to rely on public enthusiasm for the success of the Mie firm.
factory began operating in July 1896 but stopped production 2 years later. It opened again in April 1899 but closed that September. It formally dissolved the next year and auctioned its factory and equipment to Mie boseki for 27,665 yen.

Investment Groups. To study the way investors parked their money where they knew (or knew of) many of the others involved, Wada, Kobayakawa, and Shiomi identify overlapping boards in Aichi in 1898. They locate 12 loose corporate groupings: five were tied to prominent individuals, and another seven were geographically based in smaller towns. The three largest groups came from Nagoya.

The biggest of the groups revolved around a nouveau riche soy sauce brewer named Seika Okuda and included 21 firms. If we limit ourselves to those firms with at least 30,000 yen in paid-in capital, we obtain the group director overlap described in Table 7.

The table suggests several points. First, a minority of directors and officers worked with each other on multiple firms. Although we do not have shareholding records (other than of the spinning firms), in general, directors also held significant blocks of stock. Thus, if directors and officers overlapped, the major shareholders probably did too. More to the point, people who invested large sums tended to invest in firms where they knew personally some of the other people involved (a point consistent with a certifying role among investors). Second—inverse to the first—these groups were not cliques. Only a minority of the directors (and, implicitly, major shareholders) overlapped with some of the same directors at other firms. Personal knowledge mattered, but it mattered within a fluid (albeit localized) capital market.

Director Prominence. We earlier showed how firms with prominent directors tended to earn high profits. Of the five operating Aichi spinning firms, none was terribly successful. Instead, by the middle of the first decade of the century, all sold their operations to more efficient competitors. Of these five, only the Nagoya and Owari firms had directors sufficiently prominent to meet the standard used for Table 2.

The Tsushima and Chita firms lacked nationally prominent directors but had men with local visibility and—importantly—placed them in direct operating positions. The Tsushima president served at various times as prefectural governor, Diet representative, and head of a bank and a railroad. The Chita president founded a bank and served in the House of Peers; another closely involved director served in both the prefectural assembly and the national Diet. The Ichinomiya officers were similarly prominent locally but did not actively participate in management.

To compare the relative profitability of these five firms and the Mie and

---

52 Wada, Kobayakawa, & Shiomi, supra note 20.

53 A fuller list is provided in id.

54 7 Kinukawa, supra note 8, at 81, 100, 118–19.
TABLE 7
THE OKUDA GROUP IN 1898

<table>
<thead>
<tr>
<th>Firm</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Founding date</td>
<td>1879</td>
<td>1887</td>
<td>1887</td>
<td>1888</td>
<td>1893</td>
<td>1893</td>
<td>1894</td>
<td>1894</td>
<td>1896</td>
<td>1896</td>
<td>1896</td>
<td>1896</td>
<td>1896</td>
<td></td>
</tr>
<tr>
<td>Capital</td>
<td>150</td>
<td>600</td>
<td>249</td>
<td>135</td>
<td>95</td>
<td>95</td>
<td>30</td>
<td>112</td>
<td>85</td>
<td>750</td>
<td>300</td>
<td>45</td>
<td>45</td>
<td>40</td>
</tr>
<tr>
<td>Directors:</td>
<td>D</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>V</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Hattori</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shiraishi</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>V</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Inoue</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Yamazaki</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Miyaji</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Okuda</td>
<td>P</td>
<td>A</td>
<td>C</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>P</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Sasada</td>
<td>C</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>P</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Yokoi</td>
<td>D</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>P</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Susaki</td>
<td>N</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>P</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Hachisuka</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>P</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Hirako</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>P</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Futamura</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>P</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Yoshida</td>
<td>P</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>P</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Kamitono</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>P</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Ino</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Okamoto</td>
<td>P</td>
<td>D</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Shimagori</td>
<td>D</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Murase</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Nagata</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Isogai</td>
<td>P</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Yamada</td>
<td>P</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td></td>
</tr>
</tbody>
</table>

SOURCE.—Kazuo Wada, Yoichi Kobayakawa, & Haruhito Shiom, Meiji 31 nen jiten no Chukyo zaikai ni okeru juyaku kennin [Overlapping directorships in the Chukyo financial world in 1898], 7 Nanzan keiei kenkyu 217 (1992).

NOTE.—Firms: 1, 46th Bank; 2, Owari Spinning; 3, Nagoya Electric; 4, Atsuta Bank; 5, Nagoya Storage; 6, Nagoya Stock Exchange; 7, Nagoya Life Insurance; 8, Aichi Agricultural & Commercial Bank; 9, Nagoya Commodities Exchange; 10, Meiji Bank; 11, Nippoin Rail Car; 12, Aichi Match; 13, Chuo Brick; 14, Aichi Lumber. Firm names are translated to disclose industry involved; transliterations are available upon request. Capital: Paid-in capital in 1,000 yen. Offices: As terminology was not yet standardized in 1898, some ambiguity exists. Nonetheless, D, director (includes rijicho, nakagainin, jomu, and senmu); C, chairman; P, president (includes shihainin); V, vice president; A, auditor; B, broker. We exclude firms with less than 30,000 in paid-in capital.

Kuwana firms next door, we regressed (using pooled OLS) the log of 1903–11 firm profits on firm dummies, on the log of the number of total spindles at the firm, and on year dummies. Given the small number of observations, the results are no more than suggestive. Nonetheless, if we omit the Mie boseki dummy to use Mie as a benchmark, we obtain the coefficients and t-statistics (absolute values in parentheses) given in Table 8.

Of the seven firms, the most profitable was Mie, the firm that most aggressively acquired other firms. All other firms seem to have been less profitable. Moreover, of the seven firms, the three with nationally prominent directors (Mie, Nagoya, and Owari) seem to have been more profitable than the others.

The Wages of Failure. The Aichi spinning firms performed less than
spectacularly, but the Aichi textile industry thrived. Aichi prefecture is next to Mie prefecture, and in Mie was the Mie boseki firm. Formed in 1886, by 1893 the Mie firm had a factory in Aichi prefecture as well. By the first decade of the twentieth century (but in a process that began soon after its formation), it was relentlessly acquiring its less successful competitors: Owari and Nagoya in 1905, Nishinari (the successor to Naniwa) in 1906, Tsushima in 1906, and Chita in 1907. The Ichinomiya president wanted it to merge with Mie too, but the shareholders opted to merge with Nippon boseki instead.55

Parenthetically, note that a local bias also appears in the acquisition strategies successful firms adopted. The Mie firm was based in Yokkaichi city in Mie prefecture, but Yokkaichi itself is only 15–20 miles from Nagoya (the Aichi prefectural capital). In planning its acquisitions, the Mie firm focused

---

55 Miwa & Ramseyer, Corporate Governance in Transitional Economies, supra note 1; Sen’i kogyo [The textile industry] 39–42 (Shozaburo Fujino, Shiro Fujino, & Akira Ono eds. 1979); 7 Kinukawa, supra note 8, at 128.
on neighbors such as the Aichi firms (beginning with the Ise Chuo firm in the Mie city of Tsu). Other efficient firms (Kanebo being a famous exception) often held a Mie-style local acquisition bias as well.56

If the five Aichi firms performed in a lackluster fashion, Aichi prefecture took its lacklusterness all the way to the bank. In 1900, Aichi firms produced 27 million pounds of cotton thread. By 1910, they produced 55 million pounds, and by 1920, 67 million. In 1900, Aichi spinning factories (cotton, silk, and wool) employed 5,500 workers. By 1910, they employed 9,200, and by 1920, 17,000. In 1900, Aichi weaving factories employed 1,000 workers on modern weaving machines. By 1910, they employed 13,000, and by 1920, 39,000. More broadly, in 1902, 890 Aichi factories had more than five workers, and they employed a total of 32,000 employees. By 1911, 1,500 factories employed 47,000, and by 1920, 4,400 employed 82,000.57

Crucially, when a firm such as Owari failed, its equipment did not disappear from the economy. Neither did its jobs. Instead, more efficient firms such as Mie bought the factory, revamped it to better use, and hired workers to run it. As Henry Manne showed decades ago, mergers and other changes in corporate control help put workers and assets to their highest valued use.58 That has been true in the modern United States, and it was true in turn-of-the-century Japan as well.

IV. Conclusions

Eyeing the inadequate statutes, the inept regulators, the corrupt managers, and the dysfunctional courts—eyeing all this, some observers of the modern transitional economies in eastern Europe have urged firms there to ignore stock markets. Such markets simply will not work, they explain. The firms will need instead to rely on debt finance, particularly bank debt. Only then will they be able to keep the principal-agent slack at manageable levels.

Turn-of-the-century Japanese firms too faced only haphazardly functional statutes, regulators, managers, and courts. Yet there, the successful large firms did not rely on debt, much less bank debt. Instead, they raised their funds through the stock market and took a variety of steps to mitigate the agency slack. One of those steps was to recruit prominent investors to their boards of directors.

About these prominent directors, our data yield several results. First, spinning firms with prominent directors had higher profits in subsequent years than the others. They had higher profits, we suggest, both because those directors knew how to monitor firms and when to intervene and because the

56 Fujino, Fujino, & Ono eds., supra note 55, at 39–42.
most visible directors may have certified firm quality to other investors. Second, director prominence held constant, a firm did not have higher profits by having bank-affiliated directors on its board. Elsewhere, we show that higher leverage was not associated with higher levels of market capitalization/equity. Here, the results suggest that potential access to debt through bank-connected directors may not have raised profits. Third, director prominence held constant, a firm did not have higher profits by having directors who brought connections to other spinning firms. One might have thought well-connected directors would raise profitability by easing access to engineering expertise. Again, they did not.

Bank affiliation did not matter because banks did not have the funds spinning firms needed anyway. Technological access did not matter because firms could obtain that access easily anyway. What the firms needed were directors who would monitor, intervene, and certify quality, and those were services prominent investors could—and apparently did—provide.

---

59 Miwa & Ramseyer, Banks and Economic Growth, supra note 1.