The Myth of the Main Bank: Japan and Comparative Corporate Governance

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If our facts don’t fit the theory, we need new theory.

And why not? Ostensibly at least, we write these articles to understand the world we live in. Our theory serves a purpose if it helps us understand. If it doesn’t fit the facts, how could it do that? If it doesn’t fit the facts, we need new theory.

In fact, of course, we don’t. At least not necessarily—for facts are not always what they seem. As we all know, we rarely work with raw empirical phenomena. We use selected, sorted phenomena, and we cannot select and sort without theoretical priors. Sometimes, when the theory doesn’t fit the facts, we need new facts.

For years, in the academy we used “facts” from Japan to prove the culturally determined character of theory, and none more so than economic theory. Alas, we more often showed how tenaciously we could cling to even the most wildly implausible “facts.” Where standard economic theory

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predicts that parties to disputes will rationally pursue their self-interest, we argued that Japanese disputants ignored it for the sake of norms of communal harmony. Where theory predicts that voters will manipulate government for private ends, we claimed that Japanese citizens deferred to bureaucrats out of respect for authority. Where theory predicts that contracting parties will draft agreements to further their private advantage, we asserted that Japanese business partners trusted to unspoken good will.

None of these stereotypes is true. Because specialists increasingly recognize that none is true, part of the culturalist debate has now shifted to a field one might have thought home to the most hard-nosed Chicago-school economic analysis: corporate finance and governance. Central to the debate is the apparent empirical phenomenon of the "main bank."

In developing a new theory to explain the "main bank system," no one has played a bigger role than game-theorist Masahiko Aoki. Whether in economics or in law, few Western scholars write about Japanese corporate governance without at least addressing—and usually following—his work. Even among the more culturalist scholars, Aoki and his "main bank system" can figure prominently. To sociologist Ronald Dore, for instance, the main bank forms a significant part of Japan’s "alternative form of capitalism" (2000, xi). Within that world, people are "more disposed than Americans and most Europeans . . . to cooperative rather than to competitive, adversarial patterns of relations" (2000, 38). And within that world, the main bank plays an important role in making that alternative capitalism work (2000, 27–28, 34).

In economics, main bank theorists are anything but culturalist. Like Aoki himself, many are mathematically sophisticated scholars working closely within the economic mainstream. Because their new theory dovetails so tightly with the cultural stereotypes, however, implicitly to be sure it has again brought the older debates over Japan to the forefront. Necessarily, the issues involved reach beyond banking and finance, to basic questions about how we understand Japan and how we do social science.

To explore these issues, consider first the standard set of "facts" by which most scholars understand the issues (section 1). Turn then to the new theory Aoki advances to explain those facts (section 2), and the consequences for legal reform (section 3). Finally, ask whether the theory accurately describes Japan (section 4).

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1. As discussed at length in Ramsay and Nakamoto 1989; Ramsay 1991; Ramsey and Rosenbluth 1993.
I. THE OLD FACTS

"No match made in heaven," F. M. Scherer once observed, "is more blissful than an extant economic theory that finds an important real-world phenomenon to explain." Given the fit it seems to offer new theory, Japanese corporate governance promises more than its share of academic bliss. To describe that governance, scholars typically begin with three interconnected propositions. Typically, they claim that Japanese firms and banks, at least through the 1980s, shared the following arrangements:

a. In order to induce their most promising employees to acquire skills tailored to the firm, large Japanese companies offered lifetime employment contracts.

b. Because of cross-shareholding networks, Japanese executives could ignore both the risks of hostile acquisitions and the pressure of the stock market. If their firm fell into distress, they instead answered to their principal bank.

c. That bank (the firm's "main bank") (1) assembled its most important clients around it as a "keiretsu" (corporate) group, (2) monitored those client firms carefully, (3) monitored those firms on behalf of other banks as well, and (4) took control of (and often bailed out) such firms if they fell into trouble.

Within the U.S. academy, even many of the most sophisticated and prominent scholars share these assumptions. Curtis Milhaupt (2001, 2085), for example, described Japanese corporate governance as a function of "four central features": "(1) the 'main bank' system and its role in corporate monitoring, (2) the absence of an external market for corporate control, (3) the structure and role of Japanese boards, and (4) the lifetime employment system." Jonathan Macey and Geoffrey Miller debated whether the monitoring and rescue arrangements offered by the Japanese main banks were efficient, but not whether they existed: within Japan, "bank oversight replaces the market for corporate control" and managers of main-bank affiliated "firms sacrifice control and flexibility for the safety and security of a main bank relationship" (1995, 81, 85). Ronald Gilson and Mark Roe (1999) discussed at length why Japanese firms offered employees long-term contracts, but never seriously whether they did so. They (1993) discussed why Japanese firms maintained keiretsu ties, but not whether they did.

The consensus extends broadly into economics. In his standard textbook on the Japanese economy, Takatoshi Ito wrote that a "firm and its main bank have a long-term relationship. The firm receives loans from
“Firms run for employees,” “Cross-holdings of stock,” “Main-bank relations,” and "Keiretsu" (1994, 17–18). According to Milgrom and Roberts, Japanese managers obtain their power through the cross-shareholdings, which "are perhaps most familiar in the case of member firms in keiretsu groups." Because of the cross-shareholdings, "most of the voting shares are effectively in the hands of managers" (1994, 23 and n.10) who use their power to offer each other lifetime employment contracts. These contracts, in turn, "support[] their developing and committing their human capital" (1994, 22). The keiretsu groups "help[] with maintaining permanent employment by member firms' supporting other members that [are] in financial difficulties and absorbing employees from members that need[] to reduce employment" (1994, 32). Throughout the process, ultimately, the "main bank' play[s] a central, long-term role both as a lead source of financing, as a monitor, and as an ultimate risk-bearer in circumstances of financial distress" (1994, 23–24).

Among empiricists, Takeo Hoshi, Anil Kashyap, and David Scharfstein (1990, 1991) claimed that Japanese main banks reduce the cost of financial distress for keiretsu firms. Iwao Nakatani argued that main banks offered their debtors "implicit mutual insurance" against economic downturns (1984, 245). And Paul Sheard claimed that "the main bank provides an important substitute mechanism for what in effect is a ‘missing’ takeover market in Japan" (1989, 407).

These propositions reach back in time. Already in 1976, Henry C. Wallich and Mable I. Wallich had written that "the main bank assumes a special responsibility with respect to the borrower. In an emergency other creditors therefore can expect their claims to effectively though not legally outrank those of the main bank" (1976, 273). And they reach across disciplines. According to sociologist Ronald Dore, again, most "big firms deal with a number of banks, but one of them is usually recognized as the 'main bank.'" That is the bank "which has to pick up the pieces when a firm gets into trouble and needs a restructuring rescue from the brink of bankruptcy." True to the culturalist tradition, he declared it a rescue that "is frequently a highly loss-making activity which is undertaken less for profit than from obligation" (2000, 34).

II. THE NEW THEORY

For economically inclined scholars working on the comparative dimensions of corporate governance, Aoki promises an integrative logic. A chaired economics professor at Stanford University, he is eminently well-known in the United States and beyond. Publishing simultaneously in English and Japanese, and alternating time at Stanford with stints at the equally prestigious University of Kyoto, he has increasingly taken center
stage in the Japanese academy. By the mid-1990s, he was president of the Japanese Economic Association. He now directs the influential economic research institute at the Ministry of Economy and Industry (formerly MITI).

Aoki built his reputation in Japanese corporate governance through a prolific stream of books and articles. Like many game theorists, he generally kept this work mathematical. Usually, however, he based it on a set of empirical priors about Japan that most U.S. scholars take for granted. In Information, Corporate Governance, and Institutional Diversity, he collects and integrates much of this recent work. He begins with his vision of the shop floor (section A, below), and moves to the ties between the shop and its “main bank” (section B). From there, he turns to the connections between the bank and the government (section C).

A. Labor

Aoki starts his story at the factory. How a firm organizes its workers, he tells us, affects the skills they acquire. In Japan, managers structure their firms in ways that cause workers to invest heavily in “contextual skills.” By contrast, U.S. workers invest more in “functional skills” (pp. 44–45). Largely, the dichotomy tracks Gary Becker’s classic distinction between “firm-specific” and “general” skills (see Aoki, 1990a, 18; 1990b, 28). The former, Becker explained (1964), were skills that did not transfer readily to other firms. The latter were skills a worker could use as profitably elsewhere.

According to Aoki, this diversity between skill populations occurs at an inter-national rather than inter-industry level. Although both the United States and Japan would do better if each had a mix of both types of workers, neither does. Instead, “there is a tendency for a single organizational mode to prevail and become established as a convention within each economy” (p. 46). As a result, U.S. workers build functional (general) skills; Japanese workers invest in contextual (firm-specific) skills.

To explain this dynamic, Aoki provides an elaborate evolutionary game model (pp. 46–59), and argues that the intra-national uniformity follows from the “bounded rationality” of workers. Because of the human computational limits we all face, workers choose their skills by mimicking their most successful peers. Because of their “bounded rationality,” they see “the prevailing strategy in society” as the one that is “generally advantageous for themselves” (pp. 10–11). They copy like lemmings, because copying is the cheapest way to learn.²

² The international uniformity in Aoki’s model actually follows less from bounded rationality than from his assumption that workers are homogeneous. Once one posits identical workers, if they all mimic the most successful incumbents, they will obviously all choose the same strategy. The resulting uniformity simply repeats the initial assumption.
According to Aoki, this distinction between contextual (firm-specific) and functional (general) skills captures several crucial differences between U.S. and Japanese firms. First, it explains national patterns of comparative advantage. Because the optimal skill mix varies by industry, Japanese firms will do best where “contextual” knowledge matters most. U.S. firms will do well where “functional” skills matter more (pp. 39–41, 45, 120–25; see Aoki, 1990a, 3–10).

Second, the distinction explains why worker tenure is longer in Japan than in the United States (pp. 13, 57, 137, 171). As Becker himself observed, workers and firms will invest heavily in firm-specific skills (by definition, skills that are useless elsewhere) only if they expect a worker to stay at the firm long-term. By contrast, workers will readily invest in general (i.e., transferable) skills even if they expect to leave soon. To induce their employees to invest in contextual (firm-specific) skills, Japanese firms offer long-term employment. They then commit to keeping a worker employed when times are bad, by implicitly arranging for a main bank to rescue them when in distress (so long as the firm is still viable long-term; more on this below). The “rescue of financially distressed firms” by main banks, Aoki explains elsewhere (Aoki, Patrick, and Sheard 1994, 18), “helps to preserve the firm-specific human assets accumulated in the framework of the lifetime employment system and hence provides incentives for them to be generated in the first place.”

Third, because they have such heavily contextual (firm-specific) skills, Japanese workers have strong incentives to shirk. The claim will surprise readers used to culturalist accounts of hardworking Japanese employees. But to Aoki, their skills are contextual because they involve team work. Since “team work is the typical mode of operation,” continues he, “no individual’s contributions to the organization can be clearly identified” (p. 12; see p. 66). Because workers produce only as part of a group, managers cannot always tell whether each employee is working hard. With their effort often unobserved and unobservable, Japanese workers sometimes have little incentive to try hard.

In Aoki’s world, workers do work hard—but because of the threat that the main bank will otherwise intervene. Although managers cannot tell whether any given employee shirks, the main bank can tell whether the firm is in trouble. By contracting to intervene when the firm hits those troubled times (and sometimes to shut it down), the bank gives employees the requisite incentives. The “relative lack of freeriding in Japanese firms is attributable,” he writes, “to the relatively effective operation of the

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3. Aoki suggests that the preponderance of contextual skills in Japan defies that employee pay be the subject of ex post bargaining (pp. 12, 156; see Aoki 1990a, 20–21; 1990b, 28, 44–47). Given that firms enter the labor market every year to recruit new employees, however, reputational concerns would seem to dictate that firms pay an employee the sum of the employee’s market wage plus a market return on his firm-specific investment.
institutional mechanism for controlling it" (p. 12)—namely, the main bank's "contingent governance" system.

This system works, Aoki continues, because with no lateral labor market and no transferable skills anyway, a discharged employee would incur huge penalties (p. 13). It matters, because the "market for corporate control does not function in Japan" (p. 64). Shirking Japanese workers do not fear T.-Boone-Pickens look-alikes, for there are none. They fear the bank.

B. Capital

For Aoki as for most U.S. observers, the essence of Japanese corporate governance lies in the "main bank system." Most big firms, he states, borrow from many banks but have a special relationship with one. That one is its "main bank." Crucially, the firm maintains a relationship with its "main bank" that differs from its relationship with others in two ways.

First, the main bank acts as the firm's "delegated monitor": It watches the firm on behalf of all other banks. Because banks would waste resources if they redundantly monitored the same firm, the main bank serves as their "exclusive" monitor (p. 79). The others implicitly (they make none of these deals explicitly, even orally) "delegate" that job to it. They then abandon all further monitoring efforts. This apparently works, according to Aoki,
Note the connection to Aoki's vision of the shop floor. If a firm is viable long-term, the main bank implicitly agrees to keep its employees employed. Hence, workers can safely invest in contextual (firm-specific) skills. If not, the bank will shut it down. Hence, even workers whose effort is unobservable will work hard.

C. Government

Employees invest in firm-specific skills because the firm implicitly promises them long-term employment. They believe the promise because the main bank stands behind it. But why does anyone believe the bank? They believe it, Aoki argues, in part because the main bank would lose valuable regulatory perquisites if it cheated on these implicit promises. In the end, the main bank does what it implicitly promises in part because the government bribes it to do so (pp. 86–87).

During most of the postwar years, recounts Aoki, the government capped deposit interest rates at low levels (pp. 14–15). Simultaneously, it excluded new entrants to the banking industry, and banks restricted the market for bonds. In such a world, banks earned regulatory rents proportional to their share of the deposit market. To increase their deposits, they needed new branches, yet branches in turn required government approval. Hence, the government could use its control over new branches to control bank behavior.

With this power, Aoki seems to argue, the government set the value of the rents accruing from new branches at the knife-edge level that induced efficient bank behavior. Implicitly, it announced that a bank would jeopardize those rents if it shut a firm down. It then set the rents large enough that a bank would not close down a long-term viable firm. It set them small enough that a bank would not save a nonviable firm for the sake of the rents. “[C]oncerned about the social consequences of bankruptcy,” it used

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6. Aoki seems to think this arrangement efficient, but the logic is unclear. If the value of an employee's firm-specific skills are such that it is inefficient to lay him off (Aoki's own benchmark; see p. 83), shareholders would not have an incentive to do so. If profit-maximizing shareholders would choose to lay off employees with firm-specific skills, inducing a bank to keep them employed necessarily lowers social welfare.

7. Why promissory credibility (if a bank ever did make such a promise) would be problematic in this context is ambiguous. According to Aoki, the problem lies in the fact that the main bank shares the benefits from rescuing a firm but, because it "has to guarantee other creditors' claims," bears the full cost (p. 83). Given that (according to this story) each of the money-center banks takes turns acting as a main bank, any bank's losses at one firm would be offset by its expected gains elsewhere. In theory, the threat of ostracism from this group should prevent defection from the equilibrium without any threat of losing regulatory rents.

8. Aoki (pp. 79–80, 168–70) argues that the monitoring expertise by banks was first developed by the government-affiliated banks during World War II. For evidence that this was not the case, see Miwa and Ramseyer 2000a.
its powers to “penalize banks that liquidate[d] too frequently by dispatching managers to those banks or restricting their branch licensing” (p. 87).

III. REFORM

This vision of Japanese firms and governance has engendered predictable reformist consequences. In the early 1990s, for example, Aoki and several others urged transitional economies to institutionalize a “main bank system” rather than the “Anglo-American” corporate governance model (e.g., Aoki and Patrick 1994; Hoshi, Kashyap, and Loveman 1994). Avoid turning instinctively to decentralized market finance, they suggested. Rather, try substituting for the paternalistic face of the socialist state the monitoring face of the main bank.

Some of what seemed plausible in 1990 seems less so in 2001, and within Japan many scholars (not including Aoki) now suggest using the law to dismantle the “main bank system.” Adopt instead, they argue, the classic governance arrangements involving director and shareholder oversight. Yet if a shift away from Aoki’s vision may be occurring within the Japanese academy, it remains a normative rather than empirical shift. Scholars debate whether the “main bank system” improves on “classic” governance. They steadfastly refuse to question whether Japan actually had a “main bank system.”

Some of the recent proposals are harmless enough, if also largely meritless. For instance, many scholars (including Aoki, pp. 133–40) urged the government to abolish the postwar ban on holding companies. Doing so would, they argued, expand managerial flexibility. Fair enough, except that under existing law a firm qualified as a holding company only if it had but trivial business operations. As firms could avoid the ban by doing something besides holding stock, abolishing it was not likely to accomplish much.

Other scholars urged that firms be able to offer executives stock options. Through such options, they explained, firms could introduce performance-based compensation schemes. Fair enough again, except that nothing in the existing law stopped them from offering performance-based pay. Although firms could not have offered U.S.-style option plans, nothing kept them from pegging salaries to stock prices. As firms could pay market-based compensation without options, permitting options was not likely to accomplish more than permitting holding companies.

The more disastrous proposals involve mandatory terms. For example, many observers demand that Japanese firms hire outside directors—on the

9. “Classic,” as described in standard hornbooks. Like their U.S. counterparts, many Japanese legal scholars seem implicitly to assume that the classic arrangements function in the United States as described in these texts. They do not, of course, but that is beyond the scope of this review essay.
theory that outsiders will more aggressively police shareholder welfare. Unfortunately, they demand the directors without asking why firms in competitive markets can succeed without them. As Demsetz and Lehn (1985) pointed out, firms will adopt the governance arrangements that best let them compete. What arrangement does so will vary from firm to firm, but not the principle that firms choose the best arrangement or die. Firms that ignore their firm-specific optimum will find themselves at a disadvantage in the capital, service, and product markets. Eventually, they will drive themselves out of business.10

Reformers would also require fuller financial disclosure—on the theory that investors cannot police managers without it. Unfortunately again, they demand the information without asking how existing firms can raise funds without it. As Stigler (1964) explained, firms will choose the level of disclosure that maximizes investor returns. Investors value information, but not unlimitedly. They must pay for it, and information is costly. As a result, if a firm discloses either too much information or too little, it will find itself at a capital market disadvantage. Eventually, it too will run itself out of business.

And reformers would encourage derivative suits—on the theory that shareholders can use them to police their designated agents. Alas, as implemented in the United States, derivative suits have been nothing short of disastrous: Consistently, they have redistributed wealth to the plaintiffs’ bar and done nothing to enhance firm performance (Romano 1991). In Japan, reformers have adopted derivative litigation rules that track U.S. lines. Predictably, the results have begun to emulate those in the United States as well (West 2001).

IV. THE FIT

Such is the new theory Aoki gives us, along with the reformist consequences to the stereotypic vision of the Japanese economy. But did we need new theory? Or did we need better facts? Consider the key components of the standard “facts”: the lifetime employment offers (section A), the *keiretsu* corporate groups (section B), and the main bank contracts (section C).

A. Lifetime Employment

1. Implicit Contracts

We have long known that smaller Japanese firms lay off employees readily. We have known too that even the larger firms retire their

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10. For evidence that Japanese banks with outside directors did not outperform their competitors, see Miwa and Ramseyer forthcoming c.
employees at an early age. But do the big firms implicitly promise to pay their employees until that retirement age? Lawyers should recognize the problem: If firms wanted to promise a long-term job, why did they not do so? An “implicit promise” is a promise a firm never made, after all, for had it made it, the promise would be “explicit.” If a firm wanted to induce its employees to rely on a long-term job and invest in nontransferable skills, why did it not offer them a long-term contract?

If firms and employees did find long-term contracts advantageous, drafting them would be simple. If employees worried that the firm might breach the contract, it could include a liquidated-damages clause. If they worried about its ability to pay in a downturn, it could buy an ERISA-style guaranty from an insurance company. And if firms offered the deals routinely, economies of scale would reduce the transactions costs to trivial levels.

Notwithstanding, Japanese firms never offered long-term contracts explicitly. Rather, the expectation of job security that they promised...
years in Italy, 11.0 years in Austria, and 10.4 years in Switzerland (OECD 1997, 139).

Nonetheless, in the United States and Japan, the mean hides the inter-industry variation. Average male tenure in the United States ranges from 4.1 years in the hotel and restaurant industry and 5.7 years in real estate, to 9.0 years in manufacturing and 13.5 years in electricity, gas, and water. In Japan, average tenure ranges from 8.1 years in real estate, to 10.6 years in trade (including hotel and restaurants), 13.1 years in manufacturing, and 17.3 years in electricity, gas, and water (OECD 1997, 139).

B. Keiretsu

According to Aoki, a firm’s main bank tends to be its best monitor because both belong to the same keiretsu corporate group. Apparently, like most observers he assumes keiretsu firms use the keiretsu money-center bank as their main bank.12 As often as not, they do not.

At root, the keiretsu were a convenient fiction from the start (see generally Miwa and Ramseyer forthcoming a). They are not conglomerates. Neither are they webs of cross-shareholdings (Bergloef and Perotti 1994), Williamsonian hostage exchanges (Gilson and Roe 1993), defenses against hostile acquisitions (Morck and Nakamura 1999), or interconnected networks of relational contracts (Lincoln, Gerlach, and Ahmadjian 1996).

Instead, the keiretsu are the 1960s creation of Marxist academics and populist journalists.13 Marxists had emerged from the war in good form, and for several decades ran the university economics departments. They also famously ran the leading newspapers. According to their theory, “monopoly capital” would dominate the “contradictions” of their “bourgeois capitalist” world. In the ruthlessly competitive world of 1960s Japan, however, monopolists were nowhere to be found. Posit shadowy groups of corporations encircling giant money-center banks, and the dominating capital could begin to take shape. Create lists of the corporations sorted by the source of their loans, and even its identity would become clear (Miwa and Ramseyer forthcoming a).

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13. Milhaupt (2002) observes that some (not all) of the groups include firms that before World War II were part of family-owned conglomerates (popularly known as the zaibatsu). The U.S.-dominated occupation forced the zaibatsu families to divest themselves of the stock, however, and the firms have now been independently owned for over 50 years. Milhaupt also cites the Korean chaebol and corporate groups elsewhere. These others may or may not be coherent groups, but (other than to indicate that conglomerates can exist), we do not see how the point clarifies whether the Japanese keiretsu are coherent groups.
This is not a jest. The creators of the most commonly used (but apparently never read) keiretsu roster (the Keiretsu no kenkyu; see Keizai, various years) did little more than sort TSE-listed firms by the source of their debt. When they created their famous lists of keiretsu groups, they did not turn to cross-shareholdings, personnel exchanges, or relational trading ties. Instead, they simply asked where a firm borrowed the most money (Miwa and Ramseyer forthcoming a).

Keiretsu “cross-shareholdings” are not now unwinding, for there were no arrangements to unwind. In 1965 at the putative zenith of the keiretsu, the Sumitomo group had 48 nonfinancial firms. 14 Of the over 1,000 possible pairings among these firms, only 11 had at least a 1% stake in each other. Among the 48 nonfinancial firms of the Mitsui group and the 36 of the Sanwa, only 6 pairs exchanged 1% stakes. Among the 46 Mitsubishi nonfinancial firms, 4 pairs did; among the 45 Fuji firms, 3 pairs; and among the 29 Daiichi firms, 2 pairs (Miwa and Ramseyer forthcoming a). The occasional references in the American literature to much higher levels simply refer to all shares held by corporate investors. We do not base these figures on questionnaire results or survey data—we investigate the shareholdings themselves. 15

Neither were there relational trades to undo. In the early 1990s, the Japanese Fair Trade Commission (Kosei 1994, 139) did survey trading ties among the manufacturing firms in the keiretsu groups. 16 All told, the firms sold 12.58% of their output to other keiretsu members—2.38% if one

14. By the Keiretsu no kenkyu roster, definition (2) (see Miwa and Ramseyer (forthcoming a), explaining the various definitions used in Keiretsu no kenkyu).

15. Milhaupt (2002, 006–C7) argues that in Japan, more large firms are partially owned subsidiaries than in the United States. Perhaps so, but in many industries U.S. firms tend to be larger than Japanese firms—in part because of the greater degree of vertical integration in the United States. GM, for example, is much bigger than Toyota. In part, this is because GM maintains so many of its suppliers as internal divisions within the firm, while Toyota continues to buy most of its component parts on the market from suppliers (in some of whom it has equity stakes). Given that GM holds its supplies more tightly than Toyota (internal divisions at GM, separate corporations at Toyota), arguably GM is more “groupish” than Toyota. It makes no sense to aggregate these shareholdings unless we have reason to think the members of the “group” act cohesively—reasons we do not have. Even aggregated, however, the total amount of stock held within the group was smaller than Milhaupt implies (2002). In 1965 (by the Keiretsu no kenkyu roster), the total percentage of stock of the nonfinancial firms held by other nonfinancial firms was Mitsui, 3.5%; Mitsubishi, 4.9%; Sumitomo, 6.1%; Fuji, 2.0%; Sanwa, 2.1%; Daiichi-Kangyo Bank, 4.7%. If we include the stock held by the financial firms, the figures were Mitsui, 8.6%; Mitsubishi, 16.5%; Sumitomo, 17.6%; Fuji, 9.1%; Sanwa, 7.6%; Daiichi-Kangyo Bank, 9.4%. See Miwa and Ramseyer (forthcoming a, table 3).

16. The groups surveyed are the groups of firms whose presidents met for lunch occasionally. In the accompanying article, Milhaupt (2002) asks why we examine only the nonfinancial ties. As we show in Miwa and Ramseyer forthcoming a, the lunch club invitation lists are largely subsets of the Keiretsu no kenkyu groups. Yet the latter, as explained in the text, are merely lists of the major borrowers of designated financial institutions. As such, the firms on the lists obviously have strong financial ties. The question is whether the lists proxy for anything else. Other than the occasional use of the same trading company, the figures indicate that the answer is no.
excluded the amounts they sold to their trading company, which then mostly resold the goods outside the group. The fraction ranged from 5.57% at the Sanwa group (excluding the trading company, 1.49%) to 31.67% at the Sumitomo (excluding the trading company, 0.61%). The firms bought an average of 6.71% of their inputs from other keiretsu members—2.24% if one excluded material bought from the group trading company. The fraction ranged from 3.67% at the Fuji group (excluding the trading company, 1.23%) to 15.87% at the Mitsubishi (excluding the trading company, 5.40%).

Even given all this, so long as the keiretsu rosters were based on firm debt sources, one might have thought the keiretsu bank would act as the main bank to group firms. After all, a firm’s main bank was (by the standard definition) its largest source of debt. If the compilers assembled the keiretsu rosters by looking at debt, then the proposition that keiretsu firms used the keiretsu money-center bank as their main bank ought to be as true as it is circular. Ought to be, but is not—for reasons that trace their roots again to 1960s-vintage Marxist theory.

In their eagerness to identify conspiratorial empires of “monopoly capital,” the creators of the standard keiretsu rosters made two fatal (for mainbank theorists) choices. First, they pooled the loans from all financial institutions that had been owned by the same family before the war (family empires popularly known as the zaibatsu; see Miwa and Ramseyer forthcoming b). To identify the Mitsubishi keiretsu, for example, they summed all funds loaned by the now-independently owned and operated Mitsubishi Bank, Mitsubishi Trust Bank, Tokyo Marine & Fire Insurance Company, and Meiji Life Insurance Company. Second, they ignored loans from the large banks with government ties. They thus excluded all loans from banks like the Japan Development Bank.

Now suppose either (a) that the sum of the pooled financial-institution loans exceeds the loans from the bank that loans the most, and that the latter bank is outside the keiretsu, or (b) that the firm borrows the largest amount from a bank like the JDB. Keiretsu affiliation will no longer track main bank status. Add to those possibilities the fact that many firms use one of the trust banks as their main bank, and the assumption that keiretsu members use the keiretsu money-center bank as their main bank becomes true only half the time.
To illustrate this problem, take the Tobu Railroad. As of 1975, it borrowed 192 billion yen from financial institutions. Of this amount, it borrowed the most from (in million yen) the following five banks:

<table>
<thead>
<tr>
<th>Bank</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Mitsui Trust Bank</td>
<td>24,059</td>
</tr>
<tr>
<td>Mitsubishi Trust Bank</td>
<td>21,844</td>
</tr>
<tr>
<td>Yasuda Trust Bank</td>
<td>20,975</td>
</tr>
<tr>
<td>Japan Development Bank</td>
<td>16,789</td>
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<tr>
<td>Fuji Bank</td>
<td>15,404</td>
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The standard *keiretsu* roster placed Tobu in the Fuji group because the sum of its debt from the Yasuda Trust Bank and Fuji Bank exceeded its total Mitsui or Mitsubishi loans, and the predecessors to the Yasuda Trust Bank and the Fuji Bank had been in the same *zaibatsu* before the war. Although main bank theorists routinely assume that a *keiretsu* firm will use the *keiretsu* money-center bank as its main bank, for Tobu the Fuji Bank was but its fifth-largest lender (Miwa and Ramseyer forthcoming a).

This problem pervades the *keiretsu* rosters. Although the *keiretsu* rosters were based almost exclusively on the source of a firm’s debt, in 1975 only 40% of the firms in the Mitsui *keiretsu* used the Mitsui Bank as their main bank. At the Mitsubishi group, only 42% used the Mitsubishi Bank as their main bank, at the Sumitomo group 48% used the Sumitomo Bank, at the Fuji group 56% used the Fuji Bank, and at the Sanwa group 62% used the Sanwa Bank. Of the six major *keiretsu*, only at the Daiichi-Kangyo group was the figure above 80% (see Miwa and Ramseyer forthcoming a).

C. Main Banks

1. Firm Rescues

Do main banks implicitly promise to rescue troubled but viable firms? Implicitly promise? Given that an implicit promise is a promise they never made (else it would be explicit), the proposition raises the same problem as the putative lifetime employment contract, only more so: If banks and firms wanted to make such an agreement, why not make it? These parties regularly fell forests, after all, to document their security interests, their trust indentures, and—yes—their insurance contracts. Would internationally prominent money-center banks and Tokyo-Stock-Exchange-listed firms enter what are effectively billion-dollar insurance contracts without written
contracts, without even oral agreements, and rely instead on unstated assumptions.\textsuperscript{17}

If a bank did offer such an insurance arrangement (whether explicitly or implicitly), could it make money on the deal?\textsuperscript{18} One might have thought a bank that offered to save distressed debtors would disproportionately attract the highest-risk firms (a phenomenon called adverse selection). One might have thought it would induce its low-risk debtors to switch to higher-risk projects (moral hazard). Precisely for those reasons, most banks in the real world try to cultivate a reputation instead for punishing defaulting debtors. Main bank theorists would have them building the opposite reputation entirely.

Aoki suggests that banks saved failing debtors because they wanted the regulatory rents that branch offices yielded, and the government only gave them new branches if they saved troubled clients. One should wonder. In the 1960s, banks typically operated a new branch nearly two years before it began to turn a profit, and another two years before they recouped their heavy early losses (Okura sho 1970, 56–57). The money-center banks (Aoki’s and most Western main-bank theories are theories about the money-center banks) opened few new offices anyway. During the 1960s, the Ministry of Finance instead favored the smaller, regional banks. As a result, the big banks only opened about one new branch a year during the decade (Okura sho 1969, 154; 1971, 143), and their share of deposits fell from 32.5% in 1960 to 25% by 1969 (Kitahara 1970, 33, deposit shares at the 13 largest banks known as “city banks”).

Lest there be any doubt, we stress the point: No one—Aoki included—has proffered any evidence that “main banks” offered their borrowers insurance arrangements against financial distress. When main bank theorists argue that Japanese banks did, they point only to ex post rescues (e.g., Sheard 1994a). Sometimes, they show, some Japanese banks rescued some defaulting debtors. Unfortunately for the theory, banks everywhere sometimes have incentives to rescue troubled debtors, particularly big debtors. The aphorism that “if you owe the bank $100,000 the bank owns you; if you owe the bank $100 million, you own the bank” is as true in Japan as in the United States. Once a bank faces the prospect of a large loss on an outstanding debt, it often has an incentive to lend a bit more (or to cut the interest rate, or to write off a bit of the debt) to nurse the firm back to health.

\textsuperscript{17} Paul Sheard (1994b, 17) characterizes the question of why Japanese banks do not write out the “main bank contract” as “somewhat of a puzzle.” The answer is that there never was any contract to write out.

\textsuperscript{18} From time to time, scholars have argued that “keiretsu firms” paid higher interest rates on their loans, and that this reflected an implicit insurance premium (most prominently, Nakatani 1984). This is factually incorrect: Keiretsu firms did not pay interest at higher rates (see Miwa and Ramseyer forthcoming a, 2001).
Despite all the theory devoted to the subject, as often as not, main banks do not stay around to help troubled firms. To illustrate the point, Miwa (1996, 115–18) takes all exchange-listed nonfinancial firms (120 in number) with three or more consecutive loss years ending in 1984, and asks whether the main bank continued to maintain the largest loan share during the decade. If the theory described the facts, main banks should stay more closely attached to troubled firms than to the healthy. In fact, they are less. Among TSE section-1 firms (the largest firms are listed on section 1) generally, 66.8% of the firms maintained their main bank relationship unchanged. Among the 52 TSE section-1 firms with three or more consecutive loss years, only 60.3% did. Among the 62 total (i.e., TSE and other) firms with three years of losses, 54.9% did. Among the 24 firms with four loss years, the figure was 70.8%, but for the 34 firms with five or more loss years, it was 50.0.

The large money-center banks were particularly likely to abandon their troubled clients (Miwa 1996). Among all TSE section-1 firms, 41.2% maintained a stable relationship with a money-center bank as their main bank throughout 1973–84. Among the 52 TSE section-1 firms with three or more consecutive loss years, only 25.9% did. Among all firms (TSE and other) with three consecutive loss years, 25.8% did. Among those with four loss years, the figure was 25.0%, and with five or more loss years 23.5%.19

Thanks to the main bank literature, one foreign economist who visited one of us in the early 1990s roundly praised the Japanese system: “It’s so great—no firms ever fail in Japan!” In fact, Japanese firms fail routinely, and always have. From 1976 to 1980, 15,000 to 19,000 Japanese firms (3,000–4,000 manufacturing firms) failed annually. During the same period (according to Bank of Japan data; Nihon 1984, 162), 6,000 to 12,000 U.S. firms failed each year (1,000–2,000 manufacturers), 8,000–14,000 German firms (1,000–3,000 manufacturers), and 13,000 to 18,000 French firms (2,000–4,000 manufacturers).

2. Delegated Monitoring

Do banks implicitly delegate to the main bank the job of monitoring common debtors? Implicitly? Would internationally prominent banks with

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19. Milhaupt (2002) asks whether the figures are high or low. For a simple reason, they are low: we are here testing the claims in the main bank literature that the bank implicitly agrees to insure the firm against business failure. If those claims are true, then the crucial benchmark is not the analogous figure in the United States or anywhere else. Instead, according to those accounts that argue that the main bank offers implicit insurance, it is 100%. That proposition may seem preposterous, but it reflects the character of the claims in the literature itself. Because Aoki argues that main banks rescue only those firms that are viable long-term, his hypothesis would posit a lower percentage than 100. We are uncertain what that lower percentage would be, however, or even how one would convert his hypothesis into a testable one.
multimillion dollar loans at stake rely on their competitors to monitor a debtor without even discussing the issue? If they never discussed it, the logical conclusion is not that they arranged the deal implicitly. It is that they never arranged it at all.

Make no mistake. Main bank theorists do not claim that the main bank monitors more intensively than other banks. They argue that only the main bank monitors. By definition, the main bank is the bank with the most money at stake. Given that the cost-effective level of monitoring will generally depend on the amount of money lent, a main bank will obviously monitor more intensively than the others. The question is whether it monitors on behalf of the others.

Not only is there no evidence of this arrangement, the available data again suggest the contrary. As noted earlier, among the 100-odd financially troubled TSE firms in the 1980s, the main bank reduced its share of total loans about as often as it raised it (Miwa 1996, 117–18). When a debtor encountered difficulty, as often as not, it tried to lower its exposure. Rather than tell its competitors about the problem, as often as not, it tried to escape first.

Aoki notes the waste to having multiple creditors monitor. If the waste were substantial, however, it would raise the debtor’s cost of credit. Faced with higher costs, the debtor could adopt a more obvious tactic: Borrow from fewer banks. In the 1960s, large Japanese firms generally borrowed only 15–20% from their lead bank. The rest they spread among many competitors. Given the massive size of banks like the Daiichi Kangyo Bank and the Mitsubishi Bank, the banks’ own capital constraints would not have stopped them from lending customers more. In 1965, for example, the Mitsubishi Bank lent 31 billion yen to the client that borrowed the most, Mitsubishi Heavy Industries. To its next largest client, Tokyo Electric, it lent 16 billion, and to its third largest 11 billion. If it could lend Mitsubishi Heavy Industries 31 billion, its own size did not prevent it from lending its much smaller clients more than 15–20% of their loan needs (Miwa and Ramseyer forthcoming a).

By borrowing more money from fewer banks, Japanese firms would have reduced monitoring costs straightforwardly. In many economically advanced countries, firms do borrow from fewer banks. According to one study primarily of Western Europe, the average number of banks from which firms borrowed ranged from 15.2 in Italy to 2.3 in Norway. In Germany, the average was 8.1, but in the United Kingdom, 2.9 (Ongena 2000, 30). Why the number varies so broadly from country to country remains a puzzle, but the wide, workable range suggests that the redundancy probably does not much raise costs.
3. Shirking

Aoki's claims about shirking employees address (though ironically do not solve) a purely theoretical puzzle. Whether in the United States or Japan, many production processes involve no indivisible work. A worker on an automobile assembly line either performs his assigned task correctly or does not. If not, either the line shuts down or the quality control manager takes him to task later. An engineer either solves an assigned problem or does not. If not, his supervisor gives it to someone else. Even when a supervisor cannot observe effort, coworkers usually can (Aoki does not posit coworkers as monitors). Competing for limited promotions, if any worker shirks, his or her coworkers usually have an incentive to let their supervisor know.20

If worker effort were indeed unobservable, a main bank would add no discipline anyway. First, if the firm lacked long-term prospects, in shutting it down, the main bank would simply do what the product market would have done without it. The bank only appears in the picture, after all, when market pressure causes the firm to default in the first place. Second, bank intervention does nothing to obviate the prisoners' dilemma Aoki posits. In Aoki's world, workers collectively share the gains from solvency, individually enjoy the returns from their shirking, and cannot credibly commit to high effort. In such a game, the only equilibrium is for everyone to shirk, bank or no bank.

V. CONCLUSIONS

We in the academy have a penchant for moderation. We assume the truth is in the middle, and maybe it sometimes is. Faced with apparently implausible "facts" about Japan, our instincts tell us that maybe the putative facts are overstated, that maybe more moderate versions would better approximate the truth. If moderate versions still let us indulge our tastes for new theory, so much the better. Maybe moderation usually works. Here, it leads us badly astray.

The claims about the Japanese main bank system are not overstated. They are false. They are not claims for which we have only ambiguous evidence. They are claims for which we have none. Firms and workers did not bargain for lifetime employment. Banks neither promised to rescue

20. There may be terminological confusion here. The manufacturing process everywhere (including Japan) often involves team production in the colloquial sense, but that does not mean supervisors cannot tell who is working hard and who is not. The use of team production to refer to processes involving unobservable effort levels is instead peculiar to the theoretical literature—e.g., Alchian and Demsetz 1972; Holmstrom 1982.
defaulting debtors nor monitored debtors on behalf of their rivals. The keiretsu had no substance, and the government had little clout.21

The truth about Japan is more logical, more mundane, more boring—and more consistent with standard, old-fashioned microeconomic theory. Firms tried to maintain the option of discharging workers when times were bad. Banks tried to commit to punishing debtors who default. Banks tried to recover their money from distressed firms before their competitors noticed the trouble. The government did not pressure banks to promise in advance to save their deadbeat customers. And although firms did borrow heavily, banks were not “the only game in town” (Hoshi and Kashyap 2001, 310). Instead, firms raised funds through stocks, bonds, and trade credit—and when they did borrow from financial institutions, they had over 100 banks to which to turn.

Bad diagnosis begets bad prescription, and the current efforts toward legal reform in Japan reflect this ascendancy of bad theory over good facts. Japanese firms may not have governed themselves the way law professors would have governed, but they did not use a main-bank monitoring scheme either. Whether in the United States or in Japan, firms raise funds in competitive capital markets, and buy and sell in competitive labor, service, and product markets. Whether here or there, in order to survive, they will need good governance schemes. Toward that end, they will work out their governance on the fly. What scheme they pick will depend on the products they sell, the services they buy, the customers they face, the technology they use, and the many and various personalities involved. The scheme they pick will vary from firm to firm. The fact that they will pick the optimal scheme or die will not.

Aoki gave us a new theory for old facts. Alas, we needed better facts for the old theory.

REFERENCES


21. Milhaupt objects to our characterizing the Japanese government as having been weak. Because the point does not bear significantly on Aoki’s work, we do not address it here. We do, however, examine empirically the government’s control over the credit market in the 1960s and 1970s in Miwa and Ramseyer 2001.


